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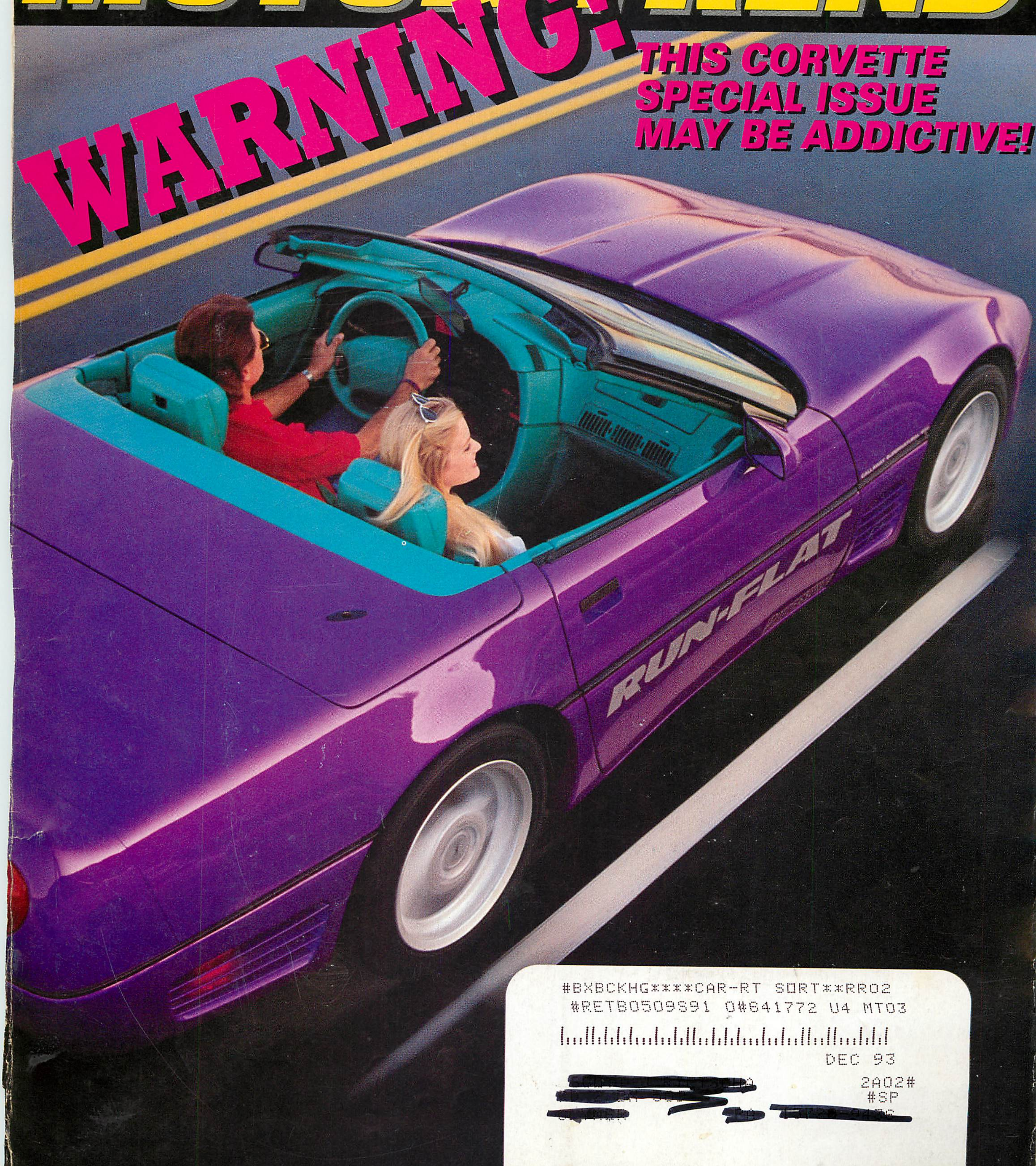

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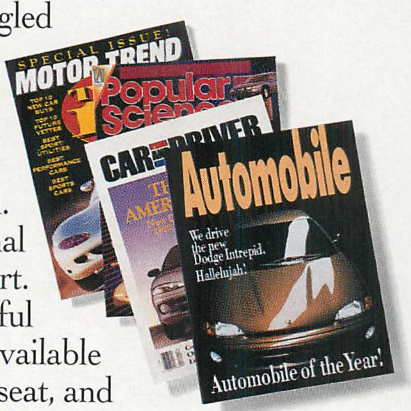
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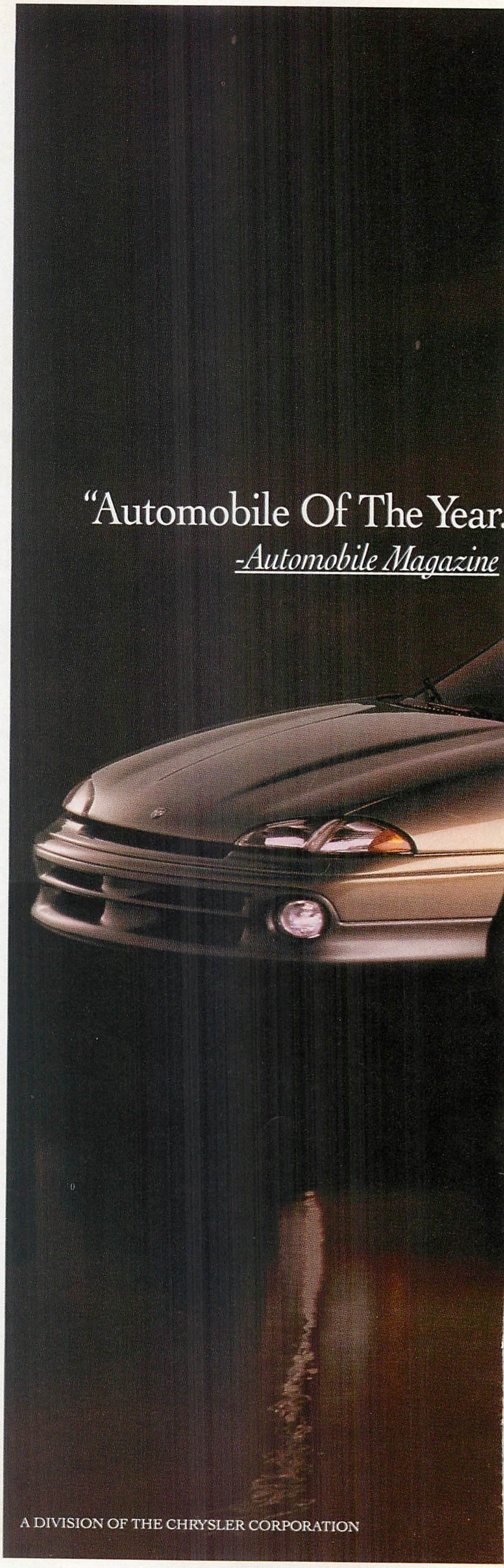
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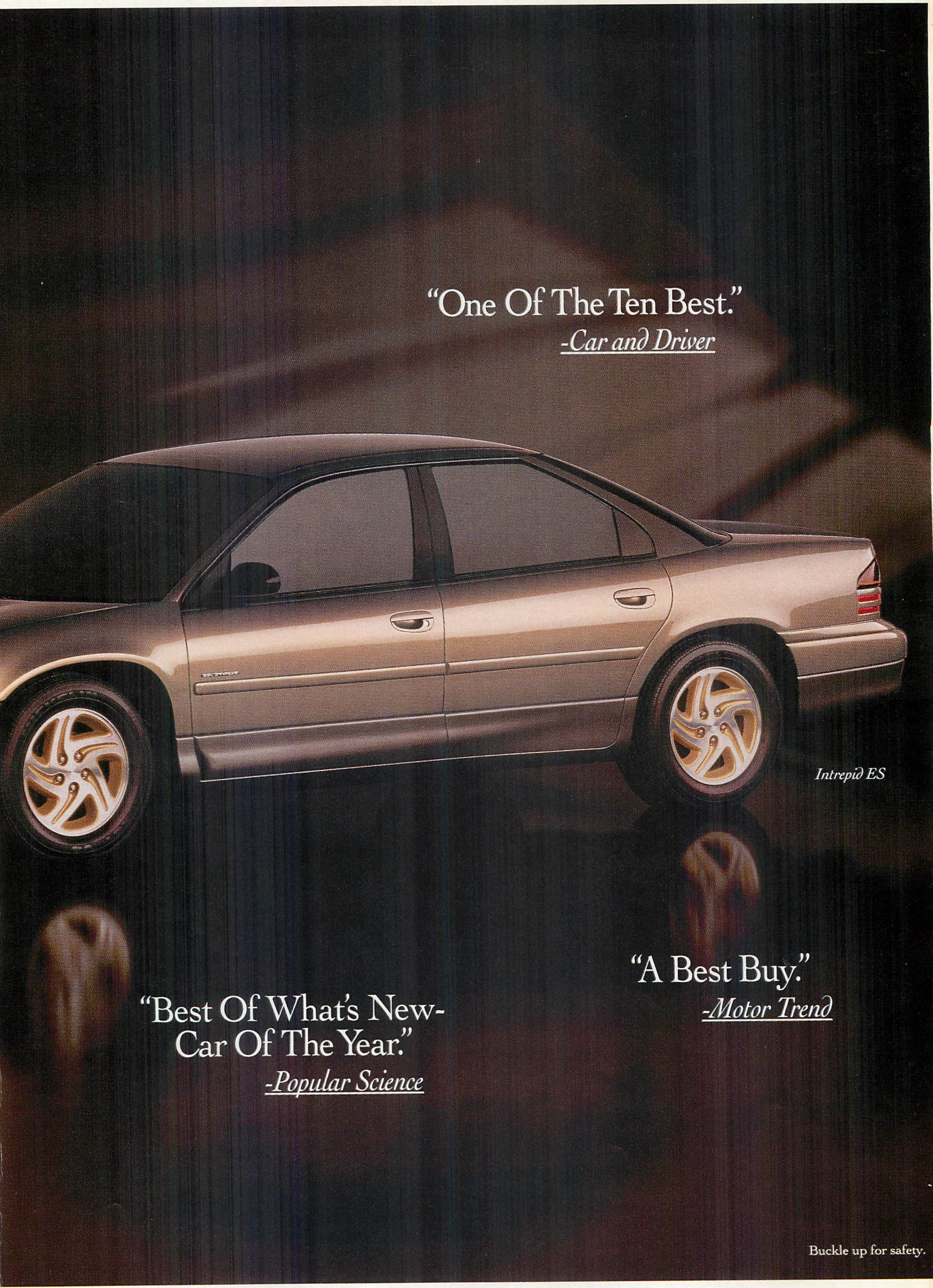
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# MOTOR TREND

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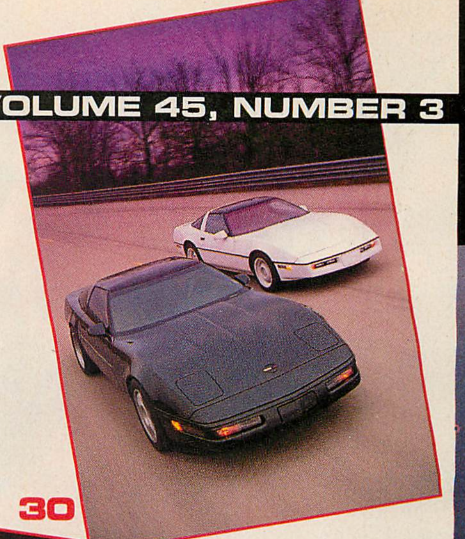

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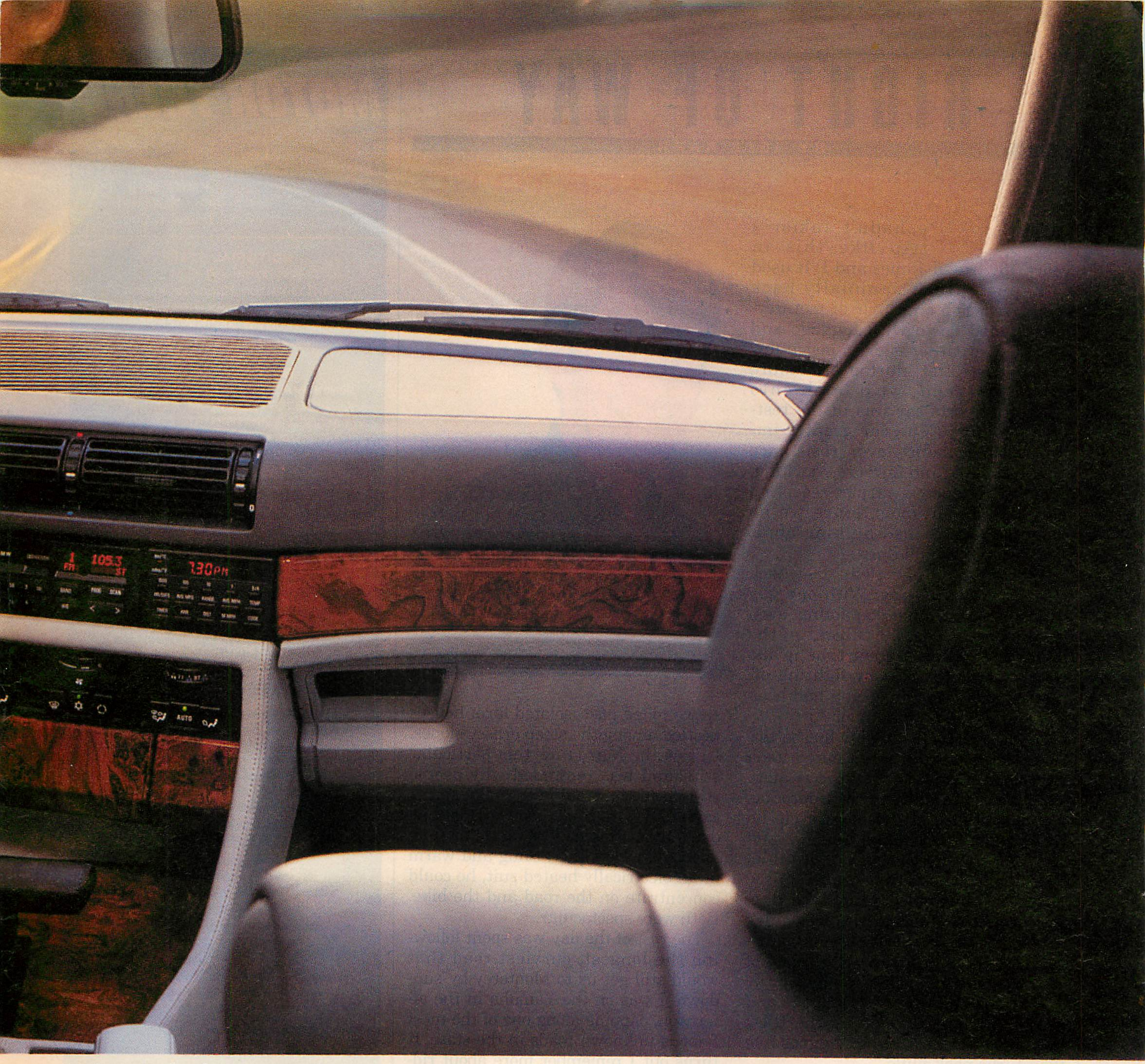

and a "passive" safety system that helps defend you from them.

The former employs the use of vehicle-speed-sensitive steering, large antilock disc brakes and Automatic Stability Control+Traction—a type of foul-weather gear that both monitors and adjusts traction on the car's rear wheels. Giving you the confidence you need in even the most slippery of situations.

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# RIGHT OF WAY

BY JEFF KARR

## NO PARTICULAR PLACE TO GO

JOE GOEBEL

We hadn't taken a trip like this in years, my friend James and I. It used to happen almost annually back then. We'd hop on a pair of motorcycles, loaded down with luggage and inclement-weather gear to last a few days. Years later, during my tenure at *Motor Trend*, we'd latch onto whatever sports car was in the testing inventory. The car greatly improved our comfort level, resistance to bug strikes, and enroute snacking. We even received a warmer reception at roadside eateries, since we no longer dressed liked hulking abrasion-resistant gladiators.

But we found one clear drawback to automobile touring: With one guy driving and the other co-piloting, even *on the best roads*, 50 percent of the team was having a great time, while the other half was busy fighting off motion sickness. Something had been lost, and it wasn't just lunch.

It was time to do it again, but better. A perfect opportunity presented itself just before Christmas. James is quite the inventor, and the first preproduction prototypes of the motorcycle he had a hand in designing (the Yamaha GTS1000A) had become available. This would be our first chance to see what the finished product was like. The perfect counterpoint to this quick and comfortable sport-touring motorcycle would be a Mazda RX-7, one of which we just happened to have in the *MT* long-term fleet. With luggage and excess riding gear piled in, the RX-7 became kind of a hyper-aggressive twin-turbo pack-mule.

Given the chill of winter, we headed north out of Los Angeles along the more temperate coast to find the sorts of roads we were seeking. They turned out to be right where we had last seen them, but they were more beautiful this time: clear, cool, and lonesome. Night number one was spent in Morro Bay, about three hours up the coast, where the night spot smells like a stadium men's room and the locals play pool mainly so they'll have a cue stick handy when a fight breaks out.

Headed north out of Morro Bay the next morning, we snaked though green coastal valleys that hadn't quite made the switch to winter brown. The aroma of fireplace smoke hung in the still air as we rolled past isolated farm houses nestled among the steep grassy slopes. I drew the Mazda for this particular stint and was reminded why people still go to the trouble to make sports cars, and why some people so love to drive them. James had no complaints about his ride either. Snug and warm in an electrically heated suit, he could concentrate on the road and the bike. Both were spectacular.

The rest of the day was spent following the longest, curviest road that would still get us to Monterey by sundown. I was on the Yamaha in the afternoon, clipping along one of the most famous unknown roads in the state. It turns out I remember more about riding motorcycles than I've forgotten, and that bikes have gotten a lot better during my riding hiatus.

By Sunday morning, we'd nothing left to do but head home. Coast-hugging Highway 1 was not the shortest route, but it was the only thinking person's choice. Very few were as smart as we, it seemed, and the drive/ride down south bordered on a religious experience.

This incredible road, hung on the edge of the world, is within easy striking distance of tens of millions of people, but on this particular Sunday morning, not one of them was around. At this very moment, they were sitting at home watching football, when they could be out doing *this*.

I sure hope it was a good game. **MT**

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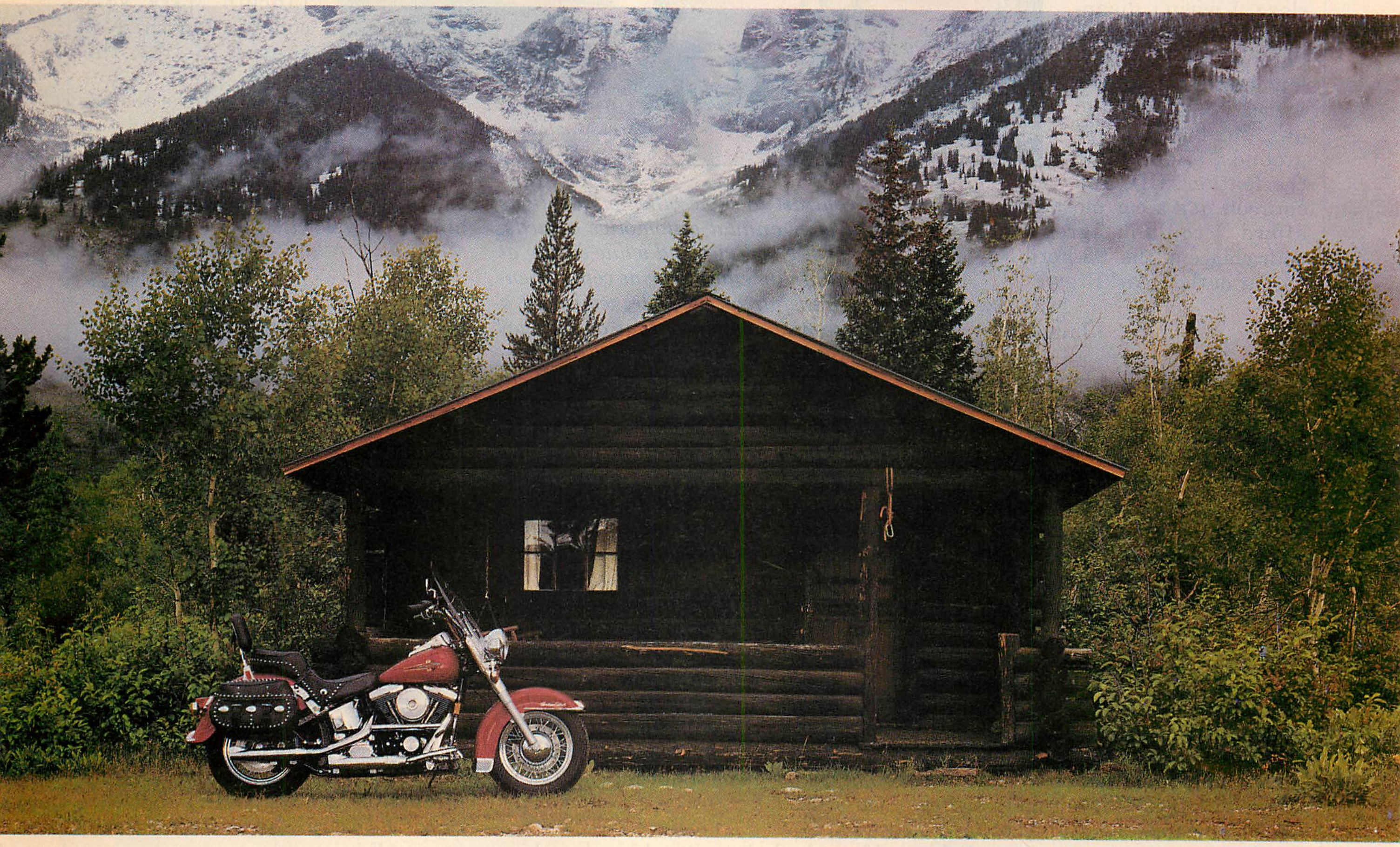
# IF YOU DIDN'T HAVE TO ANSWER TO ANYONE, WHAT WOULD YOU DO?



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# LETTERS

## COY Pros and Cons

In your March '92 issue, you showed the first pictures of the new Ford Probe GT. "Stunning" was the first word that popped into my head. After seeing the car up close, I wasn't disappointed. It has a great engine, offers excellent handling, and is attractive inside and out. Best of all, for around $17,000 (hold the leather, CD, and sunroof), it's a car most actually can afford. I couldn't agree more with your choice of the '93 Ford Probe GT as Car of the Year! Bravo!

Mike Swanson
Jamestown, N.Y.

I enthusiastically declare that the Ford Probe GT is a great choice for '93 Car of the Year. No other contestant (except the Lincoln Mark VIII) possesses all the right qualities demanded by its respective market niche. Leading-edge design and a relatively low price round out the initial impressions. But the icing on the cake is the smooth and powerful V-6. The Probe GT is a world-class car with numerous credentials to verify it.

Jason Gaston
Pell City, Ala.

I like the Probe and think Ford has done an excellent job on it, but if the Chrysler LH cars aren't more significant and more deserving of Car of the Year, then your award surely loses some of its luster.

Phillip J. Finck
Houston, Tex.

I think you should've picked the Chrysler LH cars as your Car of the Year. I'm sure you have good reasons for choosing the Probe GT, but the LH cars are a brand-new line, apparently well made, which represents a whole new start for Chrysler. Your choice, while undoubtedly technically accurate, seems to me to lack wisdom and historical perspective.

William R. Brauer
Wauwatosa, Wis.

*In contrast to some other publications that offer annual automotive awards, our choice isn't decided while sitting at a desk. In an effort to be as comprehensive and fair as possible, we invest a substantial amount of time and money to conduct a thorough behind-the-wheel comparison of all nominated entries in order to judge which car represents the most improvement within its class from a driver standpoint. We agree the LH cars are fine automobiles, and, in fact, the Dodge Intrepid was a close contender in our competition. And while we appreciate what the cars mean to Chrysler and to the American automobile industry in general, our primary judging criterion isn't what's good for the industry, but what's best for the car buyer. After all, when you purchase a car, what's more important to you: historical perspective and the fact that it's a new start for a troubled auto maker or that it's the greatest advancement in its class?—Ed.*

If you had given it unbiased ranking against the T-Bird/Lincoln in comfort, ride, performance, and dollar value, the Cadillac Fleetwood Brougham should've scored second or third.

Roy Provost
Orange City, Fla

How could you have let the Ford Probe GT become Car of the Year with such a contender as the Chevrolet Camaro Z28?

Ryan Eichler
Racine, Wis

If the Pontiac Firebird Trans Am was one of the Ford Probe GT's competitors, you guys made a serious mistake in picking the Probe GT as the '93 Car of the Year.

Emilio Esteban Isaac
Brooklyn, N.Y.

How on earth could the Ford Probe get first place and the Lincoln Mark VIII come in fourth? Not that I dislike the Probe, I love it; but the Lincoln is too sophisticated and too much of a leap forward from the Mark VII to get fourth place, especially behind a Chrysler LH.

Nicholas Sweeney
Nashville, Tenn.

Picking the Car of the Year must have been a tough decision for your staff. Perhaps there were three Cars of the Year: Family: Chrysler LH sedans; Sport: Ford Probe GT; and Luxury: Lincoln Mark VIII. You broke my little heart because you didn't pick my new car...the Lincoln Mark VIII.

Paul R. Hunter
Federal Way, Wash.

*The field of entries for the '93 Car of the Year was indeed one of the strongest in the history of the award. There were several worthy candidates, which ignited more than one enthusiastic discussion among our judging editors. Yet, looking beyond which car came out on top, this impressive array of domestic hardware left an indelible impression on everyone involved of just how far the American auto industry has come in recent years.—Ed.*

I look in amazement at the selection of Car of the Year. I can't believe you pitted a Fleetwood Brougham against a Camaro. A person buying a Fleetwood does so for entirely different reasons from those of a buyer of sporty cars. I recently came out of a Z-car and into a Lincoln Continental. The Lincoln doesn't corner like my Z did, but it does nicely handle my five grandchildren at one time.

Edward H. Greene Jr.
Los Angeles, Calif.

*We couldn't agree more. That's why the entries in Car of the Year do not compete against each other, but are*

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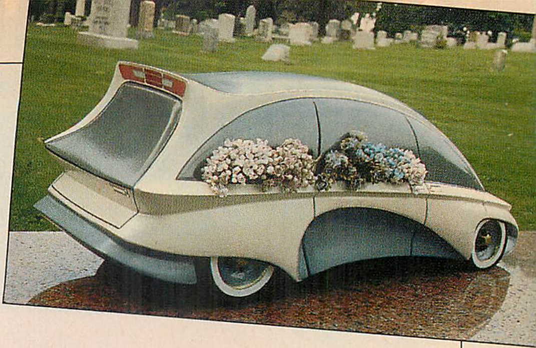
# LETTERS



*scored against other vehicles in their respective classes, just like in the real world.—Ed.*

If the '93 Camaro and Firebird are built in St. Therese, Quebec, Canada, isn't the car in fact an import? As I recall, the '92 Ford Crown Victoria and Mercury Grand Marquis were denied entry into *MT*'s Car of the Year awards last year because they're made at St. Thomas, Ontario, Canada. Why the double standard?

Denise Dufala
Cleveland, Ohio

*It's not a question of where a car is built, but how much domestic content it has. The Crown Victoria and Grand Marquis are classified as imports by the Environmental Protection Agency because they contain too much Mexican content to be domestic, not because they're built in Canada. In fact, American and Canadian content are both considered to be domestic. You should know by now that nothing's ever simple when the government's involved.—Ed.*

## Is That a Honzu or Isuda?

I've heard recently that Honda dealers will begin selling Isuzu Trooper sport/utility vehicles. Can you verify this? Also, when would this alliance begin?

John H. Winn
Brookeland, Tex.

*Right rumor, wrong vehicle. Along with the decision to stop selling cars in the U.S., Isuzu is doing a feasibility study about supplying Honda with Rodeo sport/utility vehicles that would be badged as Hondas. This probably would get underway in early '94. Honda's been wanting to break into this end of the market for a while, and, according to a source inside Honda, the top-selling import Rodeo would be a welcome addition until the company can produce its own design. Isuzu, meanwhile, will continue selling its popular line of trucks.—Ed.*

## Dead Ringer

Your recent coverage of the efforts of Art Center students to design the next Corvette (Dec. '92) has inspired me to show you, in search of equal time, the transportation thesis project I've just completed at the Pratt Institute in Brooklyn, New York. It speculates on what kinds of hearses the coachbuilder Henney might've built on Packard chassis in the year 2000. Moving beyond the padded roofs and landau bars that have dominated funeral vehicle styling for the past 50 years, my thesis models seize the inspirational possibilities of light and glass. Vehicle, casket, and flowers are treated as a composition to be dramatically orchestrated for the funeral procession. In short, they're designed to soar instead of shroud. Are your readers ready to have their "last rides" taken into the 21st century?

Gregg D. Merksamer
Scarsdale, N.Y.

*If you gotta go, go in style, right?—Ed.*

## In the Eye of the Beholder

I was excited to see the better-late-than-never, all-new Camaro and Firebird. It's good that the Camaro has changed from a bratty muscle-car to a mature and intelligent sports car. I was also impressed with the new Lincoln Mark VIII. It seems the Big Three finally are catching up with the rest of the world. At the same time, I was disappointed with the styling of the '94 Mustang. The new Mustang seems to play second fiddle to its little brother Probe in the styling department. Don't get me wrong, I'll still envy every '94 Mustang owner as much as I do any '92, '69, or '65 Mustang owner.

Juan Macias
Los Angeles, Calif.

Does the new Camaro look like a Geo Storm on steroids or what! How aerodynamic can those sunken headlights be? If the Camaro is as fast as reported, those headlights will be great bug collectors.

Roy D. White
South Holland, Ill.

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# It's a good car to be in for long stretches.

That's the word according to Jeff Sutton, a Suzuki Swift GA owner in Denver, Colorado.

"I had two main criteria for a new car:

to commute 130 miles a day, and not have it beat me up, physically or financially."

The physical part is understandable. Jeff is 6′ 4″ in his size 14 stocking feet and covers as many as 350 miles at a pop, just in the course of his job. He loves his Swift for the mileage it gets (he averages 42 mpg*) and the power it puts out ("the only things that pass me in the high mountain passes are BMWs"), not to mention the sheer room and comfort. And to think he found it all in one neat little package.

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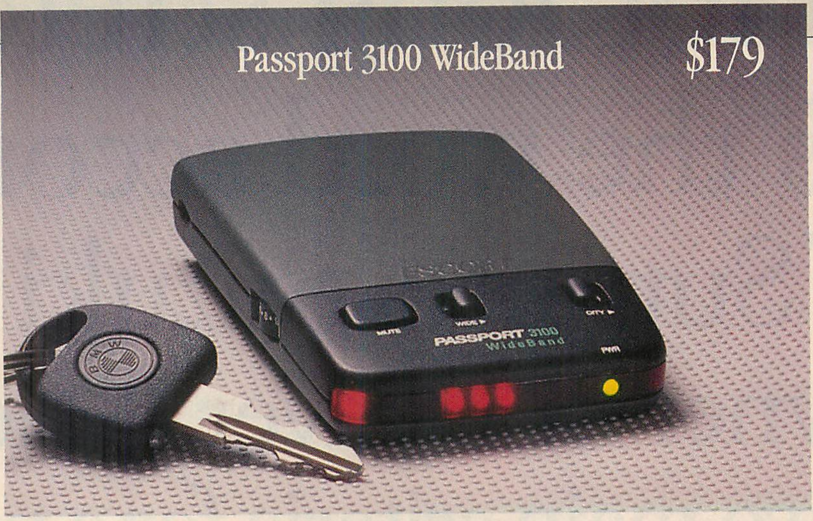

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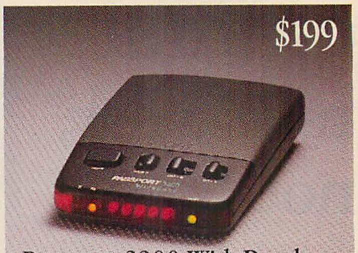
FEATURES: *Digital Signal Processing • Long range detection • Anti-falsing circuitry • Signal strength meter • Mute button • Band selector switch • Visual and audible alert system • City/highway switch*



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PASSPORT

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FEATURES: *Digital Signal Processing • Long range detection • Visual and audible alerts • Dim switch • Signal strength meter • K-band indicator • Mute switch • City/highway switch*

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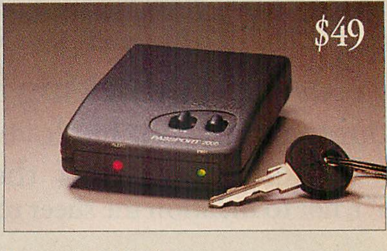
FEATURES: *Long range detection • Visual and audible alerts • Signal strength meter • Mute switch • City/highway switch*



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FEATURES: *Alert light • Audible alert tone • City/highway switch*

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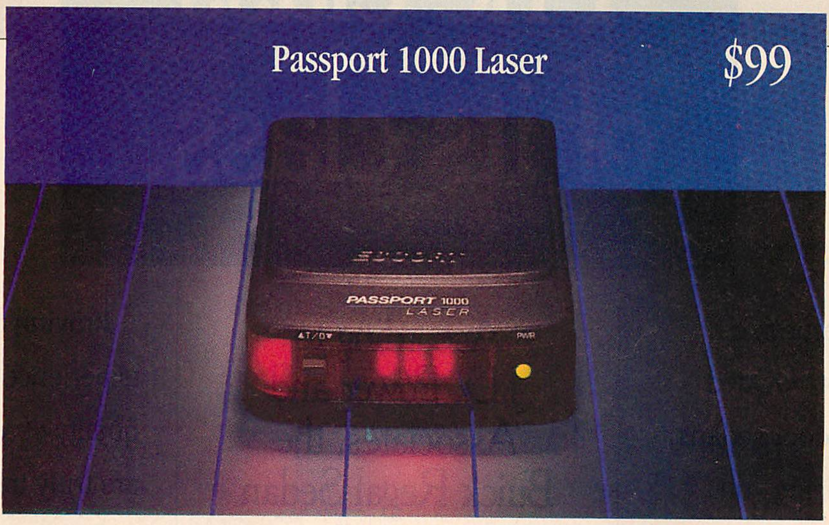

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Passport 1000 Laser: *laser* detection at its best.

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FEATURES: *Long range laser detection • Digital PRT detection • Pulse Width Discrimination • Signal strength meter • Dark mode • Adjustable volume • Compatible with most radar detectors*

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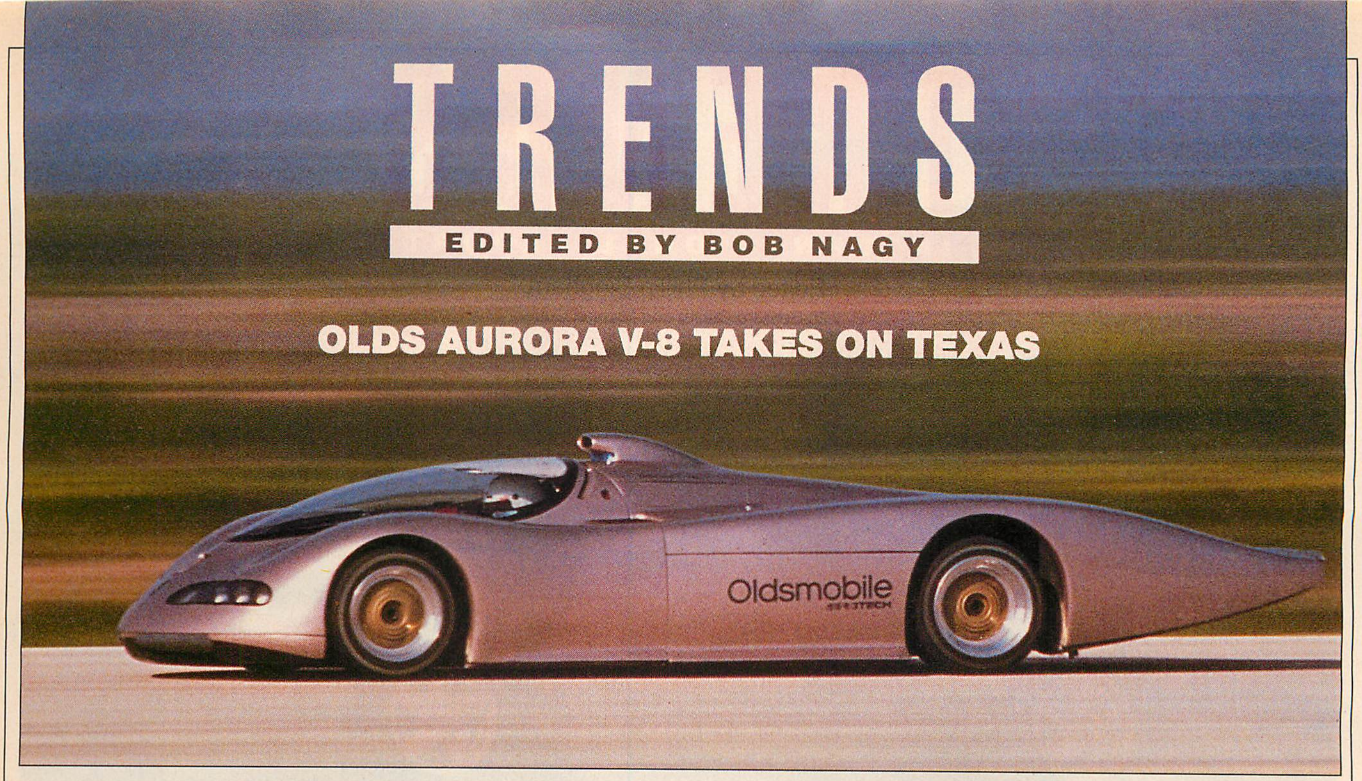
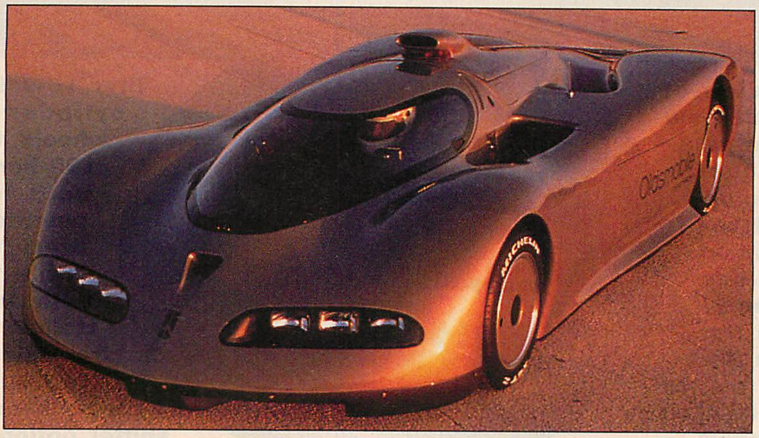
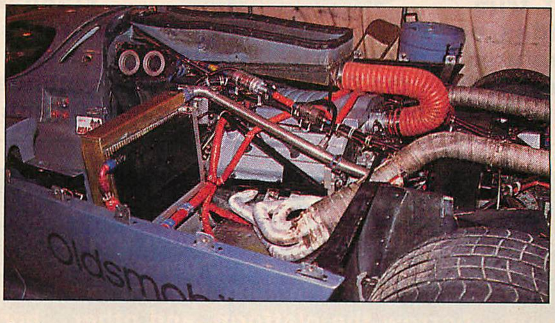
# TRENDS

EDITED BY BOB NAGY

## OLDS AURORA V-8 TAKES ON TEXAS







Contrary to popular reports, the Oldsmobile Division of General Motors is *not* headed for the great salvage yard in the sky. Olds is alive, still kicking, and anxious for the spring of 1994 to arrive when its new Aurora flagship sedan hits the street.

To hurry the wait, Oldsmobile recently dusted off its Aerotech streamliner, dropped an Aurora V-8 in the engine bay, and headed for Firestone's Fort Stockton Test Center in western Texas to convince the public that its future 32-valve powerplant is world-class in speed and durability.

A.J. Foyt set a world closed-course landspeed record of 257 mph in the original Aerotech powered by a turbocharged Quad 4 engine. A 267-mph flying-mile record was established during the same 1987 visit to the 7.7-mile test track. Those records still stand, so this time, Oldsmobile set out to shatter as many endurance records as possible while demonstrating the Aurora engine's stamina.

The logistics of the operation were just slightly less complex than the invasion of Kuwait: three Aerotech streamliners, 25 drivers, a 35-person pit crew, 16 USAC personnel to certify the results, over 300 Michelin tires, 8700 gallons of gasoline, and the good ladies of the Apostolic Church of Fort Stockton on kitchen patrol.

The Aurora engines used were stock except for open exhausts, a dry-sump oil system, revised intake camshafts, and special fuel-delivery curves. As it turned out, engines were the least of Oldsmobile's problems during the eight-day race against the clock.

The thermometer bottomed out at zero degrees. Combinations of sleet and 30-mph wind gusts shut the runs down for long periods. Wheel bearings and transmission gears failed repeatedly. The local fauna kept getting in the way. A nasty snow storm canceled plans for a special flat-out, 24-hour record run. And one crew member passed a kidney stone.

Program managers Bill Porterfield, Cyril Batten, and John Norwood endured 100-hour stints to keep the cars rolling. Nevertheless, a head gasket failed because all the air wasn't bled from one Aerotech's cooling system. The lead car threw a connecting rod after enduring 27,508 miles cruising at 180 mph and excursions over the redline every time fifth gear failed.

Even though Oldsmobile didn't reach its 50,000-kilometer goal, a total of 47 records were broken including two absolute world records formerly held by Mercedes-Benz: 170.761 mph for 10,000 kilometers and 158.386 mph for 25,000 kilometers. Six of the American records were set by Ab Jenkins more than 50 years ago in the Mormon Meteor. For racing where few manufacturers dare to tread, Oldsmobile deserves every bit of glory it can reap from the Texas endurance test. *—Don Sherman*

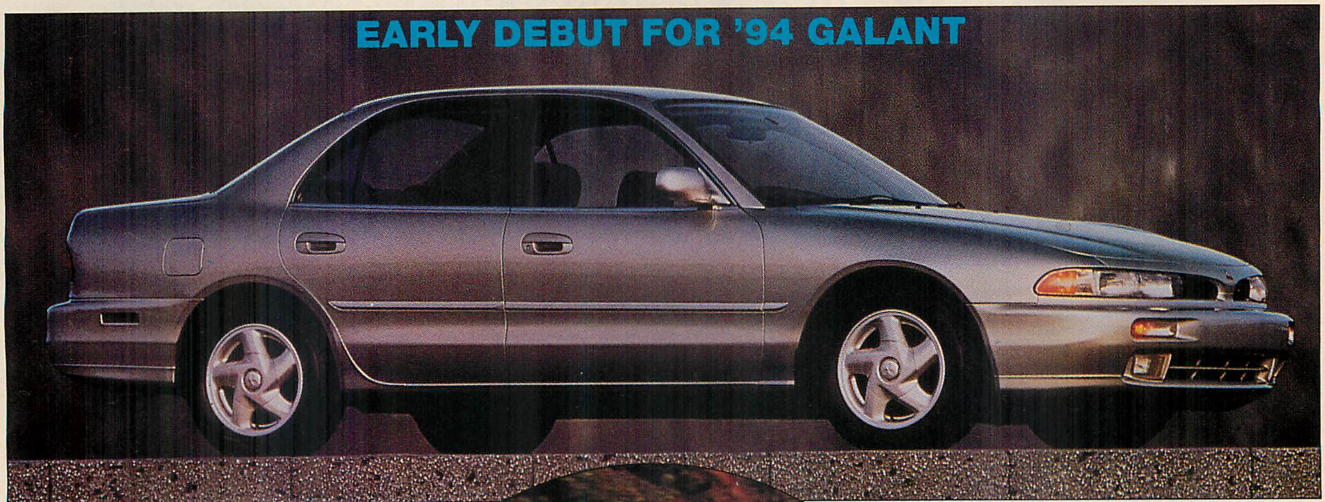
# TRENDS

## INTERNATIONAL REPORT

Edited by Phillip Bingham

with Bernard Cahier and Michael Cotton

## EARLY DEBUT FOR '94 GALANT



Here's a sneak preview of Mitsubishi's all-new Galant, which goes on sale mid-year as a '94 model. Slightly larger and more upscale than the car it replaces, the third generation of Mitsu's popular mid-size sedan will be built at the Diamond-Star facility in Normal, Illinois, although it remains a question as to whether it'll ultimately be classified as a domestic or import.

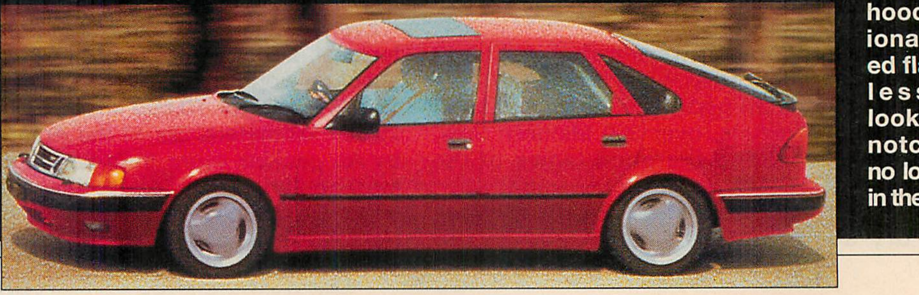
Available in four different trim grades, the new Galant rides on a 103.7-inch wheelbase and features a multilink suspension design, front and rear. While the S, ES, and LS levels cars will use a 141-horsepower 2.4-liter 16-valve SOHC inline four-cylinder to drive the front wheels, the top-line GS gets a 160-horse twin-cam version. Both feature Mitsubishi's patented Dual Engine Stabilizers for added smoothness. While the ES and LS come with an electronically controlled four-speed automatic transmission, the S and GS are fitted with a standard five-speed manual and have an autoshifter option. All models will have standard dual airbags and optional ABS brakes. Although final pricing wasn't available at press time, it's expected that Mitsubishi will continue to be aggressive in that area with the new Galant.

## SLEEKER SAAB SPIED

Troubled Swedish car maker Saab is preparing to replace its 900 model, which dates back to '78, with a little help from its friends at General Motors. Prototypes of the newcomer have been seen testing in northern Europe, and production-ready examples are due to bow at this September's Frankfurt Show.

As the first new model from Saab since it sold a 50 percent interest to GM in 1990, the 900 will borrow the platform, and other "invisible" components, from GM's Opel Vectra sedan. The flagship will initially be powered by Opel's new narrow-angle 2.5-liter 170-horsepower V-6, though a 200-horsepower 3.0-liter may follow.

The 900 retains its trademark fastback bodystyle, with a lower and sleeker hoodline, fashionably rounded flanks, and a less-heavy-looking rear. A notchback will no longer feature in the range.



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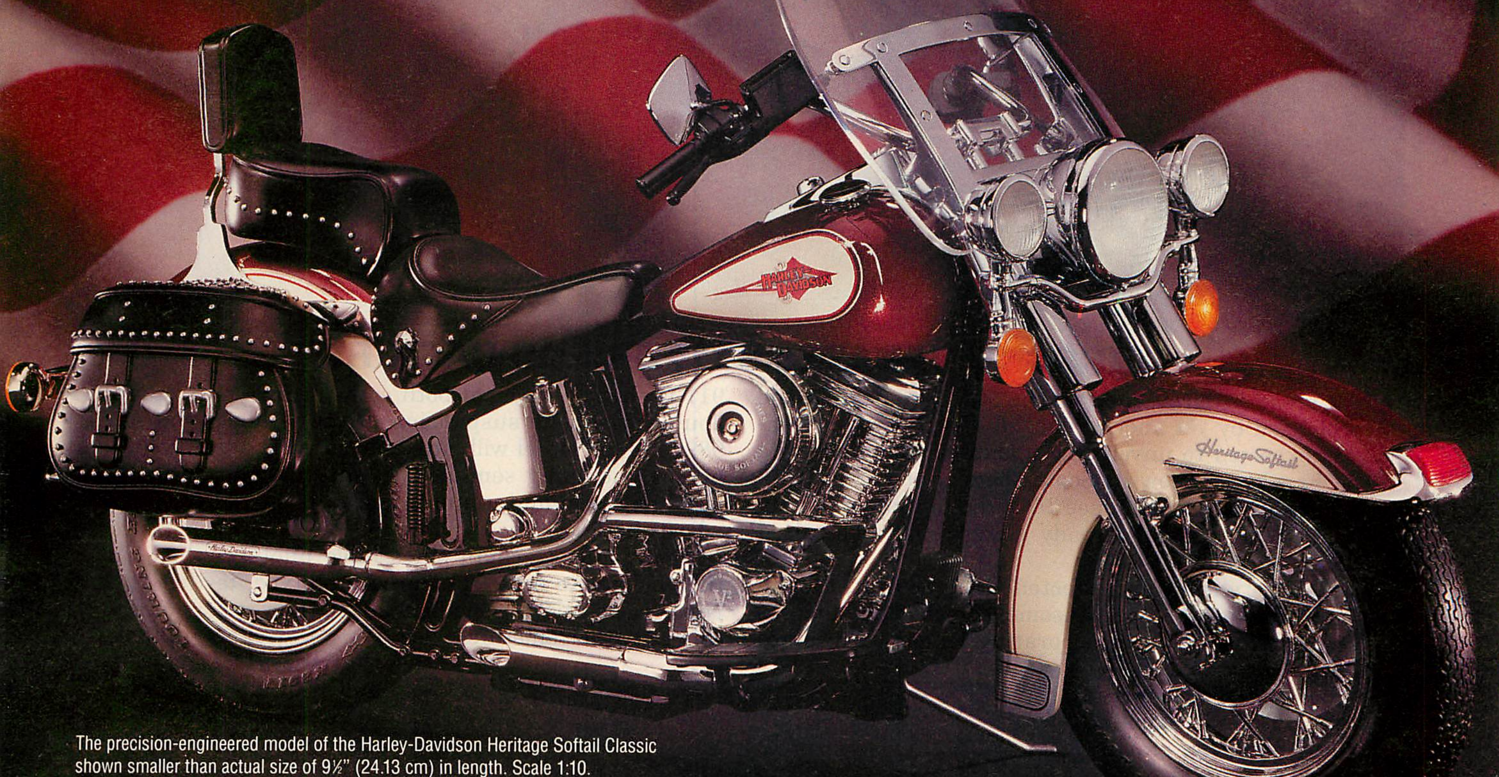

The precision-engineered model of the Harley-Davidson Heritage Softail Classic shown smaller than actual size of 9½" (24.13 cm) in length. Scale 1:10.

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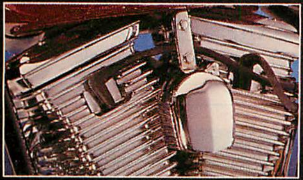

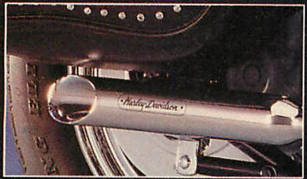

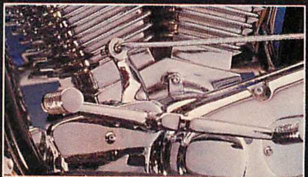

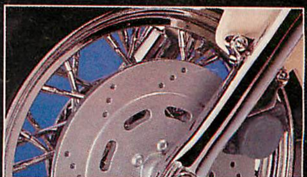

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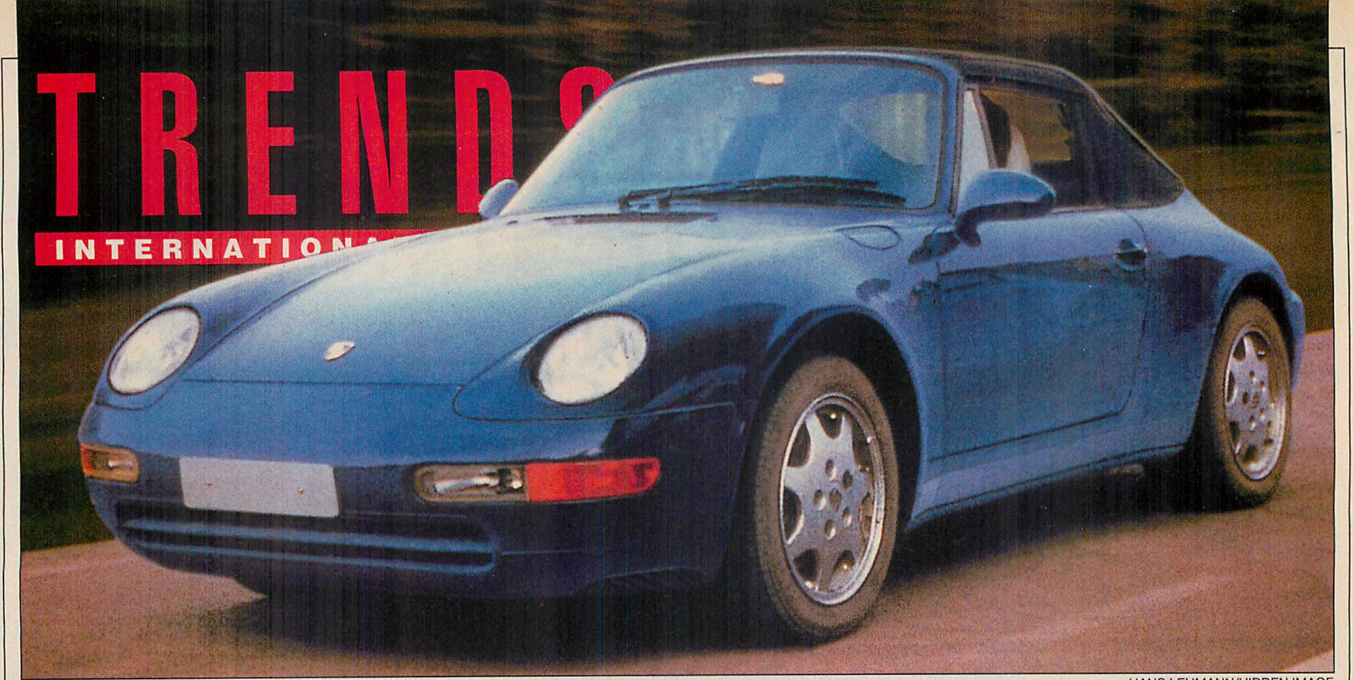


HANS LEHMANN/HIDDEN IMAGE

## PORSCHE UPDATES 911, BRINGS BACK RS

That great survivor, the Porsche 911, is to have its life prolonged by yet another facelift. The Stuttgart company is expected to unveil this update of its old favorite at the Frankfurt Show in September, prior to first U.S. sales in late '94. Code-named 993, the output of its 3.6-liter air-cooled flat-six, already glorious, is to be raised from 250 to 280 horsepower.

Porsche's stylists have effected changes that, though only subtle, keep the 911 winsomely fresh: The bumpers have swollen roundly, incorporating longer turn lamps and a wide air intake at the front, and bulging beneath new wraparound lamps at the tail; those big, staring headlamps assume a less upright stance at the end of fenders that no longer stand quite so proud of the hoodline; and more detail changes to the interior should improve ergonomics.

Sources say the latest 911 is slightly wider at both ends, because it adopts the double wishbone suspension of the stillborn four-door 989. The top model will have automatically adjustable ride height, including semi-active anti-dive and anti-squat, but Porsche remains unconvinced it should offer four-wheel steering.

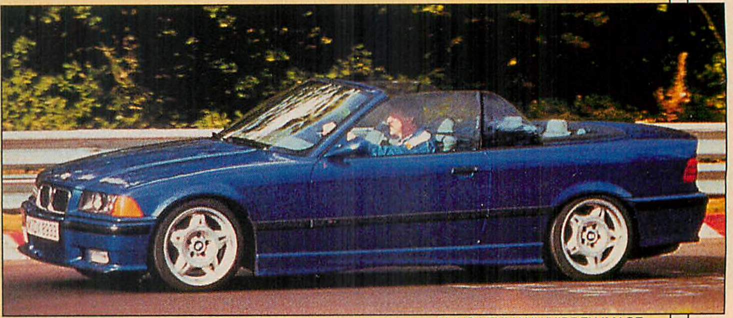
Meanwhile, German spies have photographed what they believe to be a 911 Turbo prototype, testing at the Nürburgring with a smaller and lighter rear wing. But this could be something else: We were reliably informed that the 911 Carrera RS and RSR, two of the most evocative road cars to emerge from Zuffenhausen in recent times, will make a return this year. Celebrating the 20th anniversary of the Carrera RS 2.7, Porsche will unveil the RS 3.8, with 300 horsepower for the street and well over 400 for the track.

HANS LEHMANN/HIDDEN IMAGE

## IMPORT NOTES

**Up in the Air:** For every mile they travel, aircraft belch eight times more carbon dioxide than cars do, according to a report just published by respected British magazine, *New Scientist*. The study suggests air traffic contributes more to the greenhouse effect in Europe than road traffic, shipping, and power stations combined...**Sign of the Times:** A leading London domestic-staff agency, traditionally favored by the gentry, says it has more than 1000 smartly uniformed chauffeurs looking for work.

## BMW CABRIO CAUGHT



HANS LEHMANN/HIDDEN IMAGE

Spotted testing as it prepares for its debut at the Geneva Auto Show this spring, BMW's new 3-Series Cabriolet appears ready to pick up right where its predecessor left off, as one of the sharpest-looking, best-engineered drop-tops on the market. Borrowing a page from Mercedes-Benz, the new open-air BMW features an improved top mechanism and a pair of pop-up rear headrests that serve to provide supplemental protection in case of a rollover. We're scheduled to get a 325i version of the Cabriolet sometime in early summer, and a bit later on, a 318i.

# TRENDS

## INTERNATIONAL REPORT

## JAGUAR UNLEASHES NEW TOP CAT

While Jaguar has deemed all garden-variety '93 XJ-S models will be powered by the same 223-horsepower 4.0-liter DOHC inline-six used in the XJ6 sedan, the potent SOHC V-12 hasn't been retired completely. This year, the firm's JaguarSport operation plans to turn out a limited run of 100 XJR-S models for the U.S., each with a 6.0-liter version of its all-alloy 12-cylinder. Fitted with a competition-proven Zytec fuel injection and engine management system, plus a modified intake manifold, it cranks out 318 horsepower at 5200 rpm and 339 pound-feet of torque at 3750 rpm. When coupled to a specially modified GM400 three-speed automatic transmission, Jaguar claims it will push the XJR-S 0-60 mph in under 7 seconds.

Helping put this added power to best use, is a suspension that's been tweaked with stiffer springs and Bilstein shock absorbers, plus revised bushings in the rear radius links. The power steering rack has been massaged for better response, and Goodyear Eagle ZR radials—225/50s up front and 245/55s in the rear—wrap around special 16-inch JaguarSport alloy rims.

Available red, black or silver, the R-type is visually distinguished from other XJ-S models by unique front/rear aprons and rocker cladding, blackout grille and trim, and a rear spoiler. The interior features custom Autolux leather, special Sapwood veneer accents, and a hand-engraved sterling-silver number plaque created by Asprey of London, silversmiths to Britain's Royal Family. The Coupe version stickers at $73,000, the Convertible at $80,100.

## EUROPE'S CAR OF THE YEAR

**For the first time in its 30-year history, the European Car of the Year award has been given to a marque from Japan. But the tiny Nissan Micra, which beat 11 other contenders for the title, isn't really Japanese—it was designed and developed mostly in Europe, is built in Britain, and is considered officially a product of the European Community because that's where 80 percent of its components are sourced.**

**The Micra's only close challenger was the Italian Fiat Cinquecento, another supermini. These little 'uns scored 338 and 304 points, respectively (from a possible 590), well ahead of the Renault Safrane (244), Mazda Xedos (124), Mazda 626/MX-6 (101), Toyota Carina (79), Honda Prelude (70), Alfa Romeo 155 (48), Mitsubishi Colt/Lancer (43), Honda Civic del Sol (40), Mitsubishi Space Runner/Wagon (32), and Toyota Corolla (27).**

**The jury, composed of 59 automotive journalists from 18 European nations, admired the 146-inch-long Nissan for its class-leading space efficiency, ride quality, seating comfort, ergonomics, and refinement.**

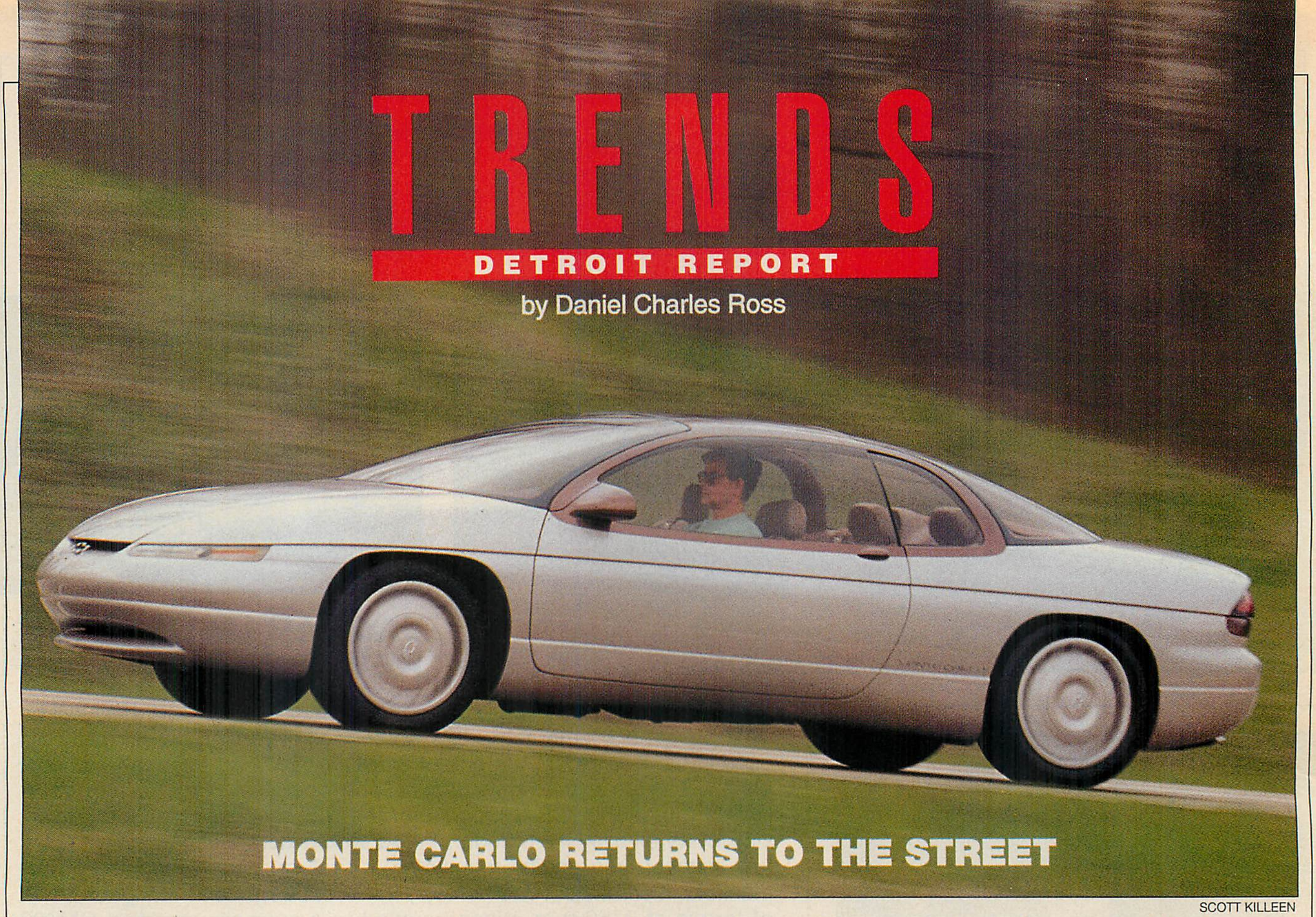
## IMPORT NOTES

**Smart Move:** GM Japan has established the new title of honorary chairman—and given it to the chief of that country's most important car importer, Yanase & Co. GM sold 9500 U.S.-made cars in Japan last year, and this year, GM Europe additionally will ship to the market 10,000 Opels. GM established ties with Yanase this January 1st... **Faster, Faster:** Ferrari is developing a five-valve-per-cylinder version of its 3.4-liter V-8, which will increase the output of its best-selling 348 model from 300 horsepower to at least 370. Test jocks at the Fiorano track are also trying suspension revisions on the 348, to refine its behavior at the limit... **Ginetta Farewell:** Ginetta Cars, the English specialty sports car maker that began life 35 years ago by challenging Lotus Elans and AC Cobras on the racetrack, has gone bust. In a vain fight for survival, the company showed two new editions of its '50s-style G33 roadster at last fall's Birmingham Motor Show, but it was too late.

# TRENDS

## DETROIT REPORT

by Daniel Charles Ross

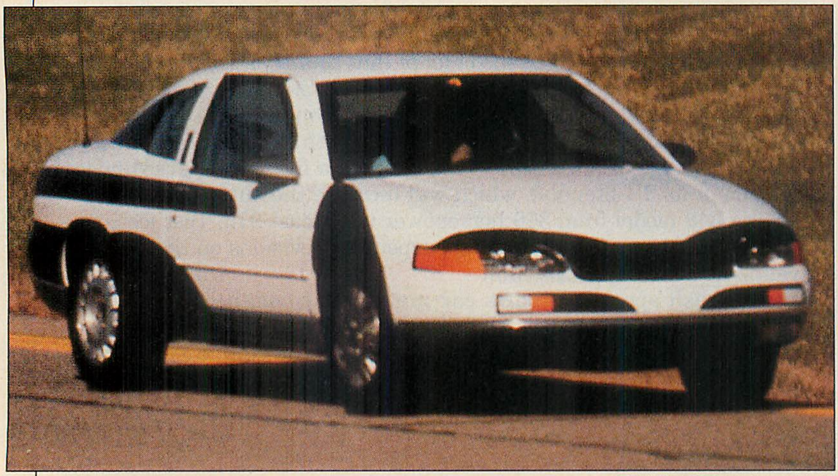


## MONTE CARLO RETURNS TO THE STREET

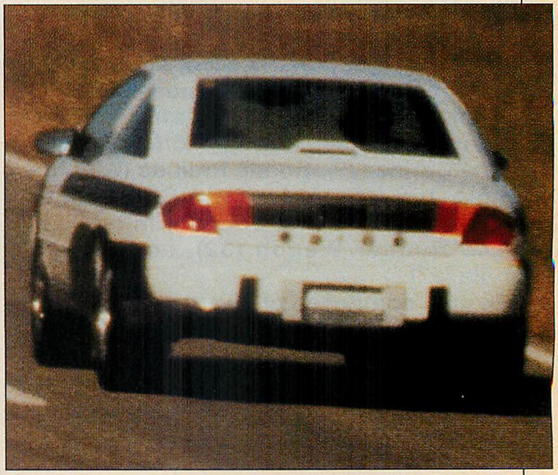
SCOTT KILLEEN

Can NASCAR be far behind? Even these long-distance surveillance views of the '95 Chevrolet Monte Carlo indicate the new model will take on a strikingly more modern look than that of the old car. The stage was set for this eagerly awaited debut when Chevrolet previewed its spectacular Monte Carlo concept car (above) at the '92 North American International Auto Show last January. The original plan called for the Lumina line to absorb customers of the two-door Monte Carlo, but now it's said the return of the Monte will kill off the Lumina coupe. A fresh Lumina sedan is also under construction for the '95 model year, thus separating the sedan crowd from those who prefer coupes, Beretta/Corsica-style.

Sources indicate at least one performance engine will drive the Monte Carlo's front wheels—Chevy's potent 3.4-liter twin-cam V-6 of 210 horsepower, bolted to a Getrag five-speed transaxle. This powertrain is currently in use in the Lumina Z34 sedan, which will be discontinued in '95. All-independent suspension, rack-and-pinion steering, dual airbags, and anti-lock power disc brakes are expected to list among the standard equipment items. Chevy's merry pranksters are believed to have an even more powerful V-8 engine option under deep wraps for a model not now on the launch plan, possibly bundled with traction control, slotted into a resurgent Monte Carlo SS model.



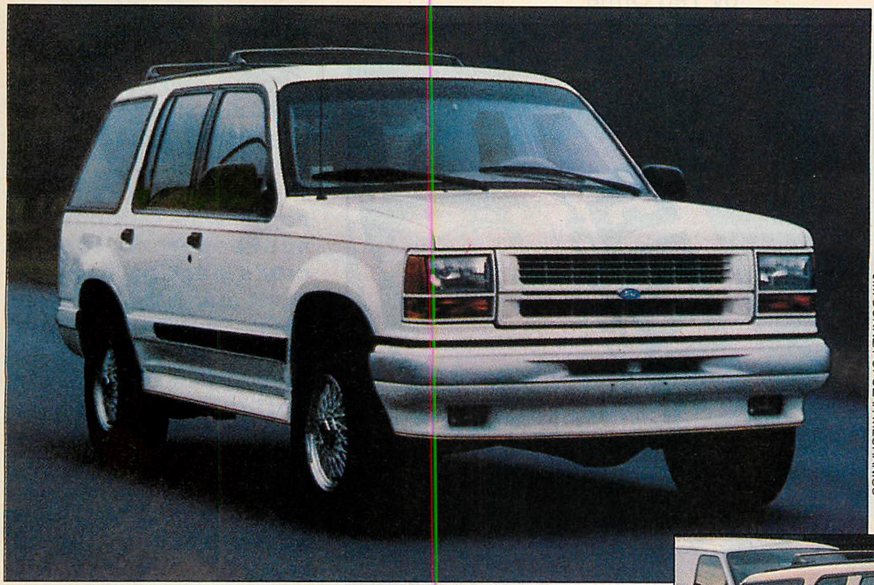
JIM DUNNE/POPULAR MECHANICS



JIM DUNNE/POPULAR MECHANICS

# TRENDS

## DETROIT REPORT



JIM DUNNE/POPULAR MECHANICS

## EXPLORER LIMITED TO BATTLE GRAND CHEROKEE

Ford reportedly will introduce the additional Explorer "Limited" model sometime this spring, in part to appease a sudden interest from high-dollar buyers. Ford dealers found shoppers for Eddie Bauer Explorers were "people trading in vehicles much more upscale than we expected—everything from Continentals to Mercedes." The other reason, Ford sources sheepishly admit, is to riposte the wild popularity of the Jeep Grand Cherokee Limited.

The Explorer Limited won't get a 4.6-liter V-8 (currently pegged at 210 horsepower in SOHC configuration, 295 in DOHC) until the next generation, probably the '95 model year, sources say.

JIM DUNNE/POPULAR MECHANICS

The Limited makeover consists of the specific exterior treatment provided by a fresh nose and side cladding with integral runningboard. The runningboard step-up was a specific request from female customers, a source says. In addition, a serious releathering of the interior and other luxo upgrades will occur.

### NO MORE LONE RANGER

In a related action, Ford is prepping the two-door Explorer to accept the fresh, attractive, aerostyle nose introduced this year on the Ranger pickup (Truck of the Year, Dec. '92). Unconfirmed reports have the small, new-look ground-pounder ready for the '95 model year. If the powertrain commonality tradition holds, the lighter, two-door Explorer also would include a powerful option for eight-cylinder go-power.

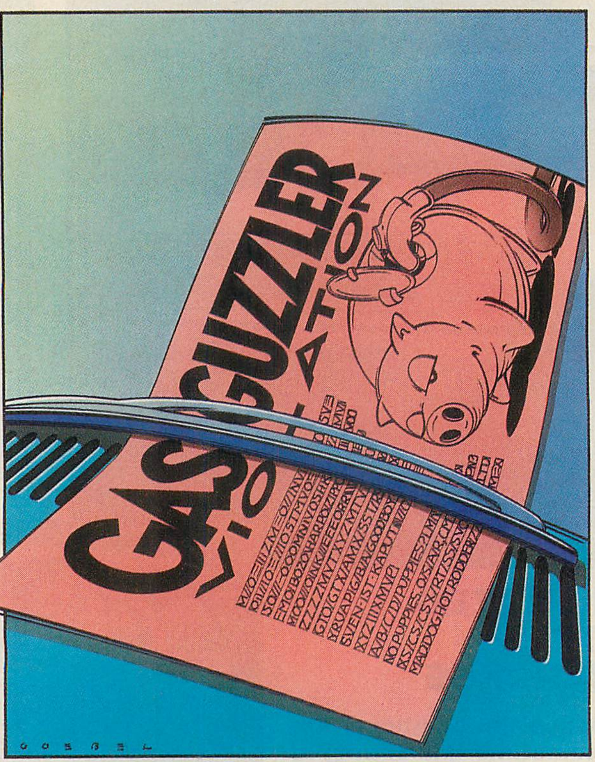
## BRIEFLY NOTED

**No Stinking Badges:** A Goodyear-shod truck competing in the Baja 1000 was waylaid by bandits when its Wrangler GS-A tires were machine-gunned. The team was robbed, and the bad guys fled. Another Goodyear-equipped vehicle came along and loaned spares to get the victims back in action. Goodyear's Jim Alexander said, "If bandits continue raiding the race, maybe we should look at incorporating some of our run-flat technology."...**Up Hill:** David C. Hill, formerly engineering program manager for Cadillac and chief engineer on the canceled Allanté Roadster, was announced as the new chief engineer for Chevrolet Corvette. Hill is only the third person to occupy the office in the history of the car. Hill takes over from David R. McLellan, Vette boss since 1975, who retired last September...**And Counting:** American Honda has exported its 100,000th U.S.-made automobile. American-made Accord sedans, coupes, and wagons and Civic sedan and coupes are exported to 18 countries...**Coals to Newcastle:** Trade journal *Ward's Auto World* says GM will export the '95 Chevy Cavalier/Pontiac Sunbird J-cars to Japan—with right-hand drive...**No Impact:** GM's electric-car program is on the rocks, with engineering and financial woes. Production is being pushed back from the mid-'90's to late-'90's, but 50 prototypes will be built for a real-world test program...**Chrysler says *Da* to Moscow:** Chrysler is making an agreement with two dealers in Moscow to sell a mix of up to 3000 cars, mini-vans and trucks.

# TRENDS

## WASHINGTON REPORT

by Ted Orme



JOE GOEBEL

BEWARE OF THE GAS-GUZZLER PATROL

In perhaps the most mindless "advocacy" campaign yet, a coalition of environmental, health, and safety groups has decided to "Ticket America" with bright-pink "Gas-Guzzler Violations" resembling parking tickets. And not just Dodge Vipers, Buick Roadmasters, and BMW 750s. Citizens also will get a ticket for any vehicle that rates the lowest fuel economy in its class, including such relatively gas-thrifty models as a four-wheel-drive Eagle Talon or 3-liter Ford Probe. In fact, the checklist even includes a warning for "Possible Unnecessary Use of Vehicle: Could you have walked, biked, or used mass transit?" The national Gas-Guzzler Campaign is the harebrainstorm of such professional Washington crusader groups as the Center for Auto Safety, Public Citizen, Clean Air Council, Greenhouse Crisis Foundation, Center for Policy Alternatives, and Advocacy Institute. After repeatedly failing to get Congress to pass tougher corporate average fuel economy standards, this collection of zealots will use thousands of high school and college students to take their fight to the streets and parking lots this spring. Taking their cue from anti-smoking campaigns, the idea is to shame Americans into buying more fuel-efficient vehicles and to "develop a national ethic that curbs the use of automobiles—particularly fuel-inefficient models," according to a campaign spokesman.

Police and parking officials don't think much of the idea, however. In Washington, D.C., where the Gas-Guzzler Campaign was launched, a spokesperson for the city's parking enforcement authority expressed some "safety concerns" for those handing out Gas-Guzzler Violations, noting that each year about 20 District parking-ticket writers are assaulted by angry citizens. A Maryland parking official added that the state already has a problem with motorists ignoring parking tickets, and these "bogus, throwaway" tickets will only make things worse.

Thomas H. Hanna, president of the Motor Vehicle Manufacturers Association, which represents Detroit's Big Three, called the Gas-Guzzler Campaign "an irresponsible attempt to intimidate consumers into buying smaller cars that don't fit their needs." He added that the "organizers of this charade refuse to acknowledge independent studies that show durability, reliability, safety, comfort, ease of handling, and manufacturer reputation rank ahead of fuel economy as factors consumers use in *purchasing* new vehicles. A dozen or more vehicles are available on the market now that exceed 40 mpg, but they constitute less than 3 percent of sales."

## CAPITOL NOTES

**MVMA Ousts Honda, Changes Name:** How do you spell Detroit? MVMA, as in Motor Vehicle Manufacturers Association, which recently signaled its clear intent to press for protectionist trade legislation by giving Honda the boot and limiting its membership to GM, Ford, and Chrysler. In a follow-up action, the group opted to put an exclamation point on its move by changing its name to the American Automobile Manufacturers Association. This "restructuring will allow it to focus on the common issues and interests unique to the domestic manufacturers," namely nine joint research projects on environmental and safety technologies."Given the new era of global competition and the critical role of a fair trade policy…it was the appropriate time to redefine the mission of MVMA and limit the membership to the three domestic manufacturers," explained MVMA President Thomas Hanna. He said that having import car and heavy truck companies (Volvo and Paccar heavy truck makers also were asked to resign) as members of MVMA, with their many different agendas, "made equitable representation and focused operations impossible." Hanna also pointed out that Honda, which had been a member of MVMA for seven years, has adequate representation in the Association of International Automobile Manufacturers and the Japan Automobile Manufacturers Association, neither of which is accessible to domestic manufacturers. Meanwhile, the AIAM has let it be known it intends to step up its lobbying efforts on behalf of import manufacturers…**Attention Parents:** NHTSA urges parents to take child safety seat recalls seriously and have the free repairs made promptly. For a list of recalls, call NHTSA's Auto Safety Hotline, 1-800/424-9393; in the Washington, D.C., area, 202/366-0123.

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# THE GOLDEN EAGLE RING

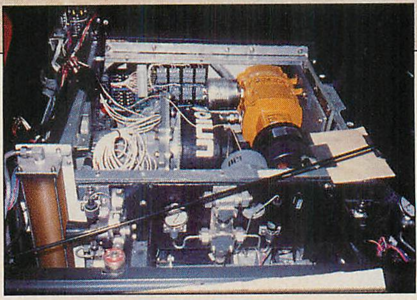
# TRENDS

## ENVIROMOTIVE REPORT

by Ron Cogan

## HYDROGEN: FUEL OF THE FUTURE?

The Green Car™
CONSULIER

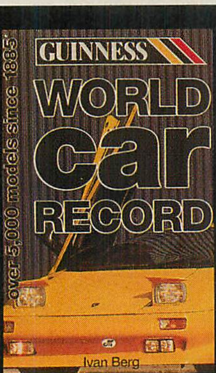


While the car shown here may look like the standard-issue Consulier GTP, it's much more. There's no internal combustion engine resting beneath this car's composite bodyshell, and no gas tank. The Consulier's exotic exterior and underpinnings may actually be the most commonplace parts of this particular car, because it's what's secreted inside that's causing a stir. Why? Its cutting-edge powertrain runs on what many consider the fuel of the future: hydrogen.

This is the "Green Car" project, an innovative effort by Energy Partners (1501 Northpoint Parkway, Technology Center, Suite 102, West Palm Beach, FL 33407; 407/688-0500), a high-tech firm specializing in the development of proton-exchange membrane fuel cells. The car is similar to other electric demonstration vehicles in that it's motivated by an electric motor/controller powertrain—this one by Unique Mobility of Golden, Colorado. But Energy Partners' car forges far ahead of the crowd by integrating a PEM hydrogen fuel cell instead of storage batteries to supply the majority of electrical power to its motor, although nine 12-volt batteries are used for peak power. Hydrogen is stored in a conventional filament-wound cylinder. With the use of a next-generation hydride fuel tank to store onboard hydrogen, the range of a fuel-cell-powered EV theoretically is greater than that of even the most thrifty IC engine-powered automobile.

Fuel cell technology is particularly "green" because neither producing nor using hydrogen is detrimental to the air we breathe. By electrolyzing water, we dissociate it into its component parts to give us hydrogen for fuel. The byproduct of this fuel-production process is user-friendly oxygen. The synergy continues because the only emissions produced by a fuel-cell-powered electric car is water vapor and low-grade heat, or in the case of an IC engine car, the addition of some oxides of nitrogen. Among the major auto makers pursuing hydrogen engine R&D, Mazda is the most high-profile because of its hydrogen rotary HRX II concept car touring the international auto show circuit.

There are downsides to hydrogen as a transportation fuel. Most notable, the significant amount of electrical energy required to create hydrogen, the lack of a pipeline network that can safely carry the fuel, and the need to build an extensive refueling infrastructure. While a new generation of photovoltaics are expected to make solar hydrogen production feasible and affordable someday, and an extensive pipeline distribution system can be built, hydrogen likely will remain a "fuel of the future." But with auto makers already taking a look at the technology, and U.S., European, and Japanese governments actively pursuing hydrogen fuel-cell projects to the tune of hundreds of millions of dollars, hydrogen could someday become the world's fuel of choice.



## REVIEW

***GUINNESS WORLD CAR RECORD, by Ivan Berg. Published in the USA by Motorbooks International, 1992. Paperback, 9¼ x 6 inches, 760 pages. ISBN: 0-87938-660-6, $24.95.***

'Scuse me…I need a drink of water. Ahhh, that's better. I've just been reading the "Guinness World Car Record" book, and gosh it's dry.

While the name Guinness needs no introduction, this unrelenting book of automotive factoids is a new title, only recently on sale, and most readers won't know of it.

Produced as a small-format but very thick paperback, this volume groups a stupefying degree of information, full specifications on 5008 automobiles built between 1885 and 1992, and comparisons in a number of categories based on those specs.

The author, Ivan Berg, is a car nut, much like ourselves. He took pride in knowing a fact or two about every car he saw in postwar Britain. For this book, he's extensively researched English and American car magazines and culled his data from their spec boxes and charts.

One finds, for example, lists of engine formats, displacements, fastest 0-60 times, highest power, highest torque, highest piston speed, etc, etc. Also included is a listing of cars made in each model year. There's even a list of lists.

Not being an in-depth auto buff has led Berg into a few minor errors and one phenomenal gaffe. He innocently includes the Norwood Ferrari GTO amongst regular production Ferraris, a move that'll make many a car lover's blood run cold, and most *tifosi* swoon with anger.

The Norwood GTO is a homemade, one-off, GTO-bodied Bonneville racer with a twin-turbo Chevrolet big block engine and a Lenco funny car transmission.

While the vast majority of the information in the book is accurate, the zingers give it character.

No matter. Many of us will want a copy on our reference bookshelves.

*—Gregory Von Dare*

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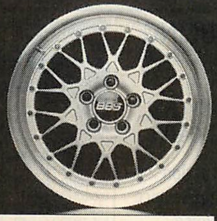
### BORBET TYPE A

**Size:** 14, 15, 16, 17, 18"
**Fits:** Acura, Alfa, Audi, BMW, Ford, GM, Honda, Infiniti, Jaguar, Mazda, Mercedes, Mitsubishi, Nissan, Porsche, Saab, Toyota, VW.
**Finish:** Silver center with polished lip and clearcoat.
**Sample Package:** 18x8.5 wheel with 245/40ZR-18 Dunlop D40M2 **$2,796**

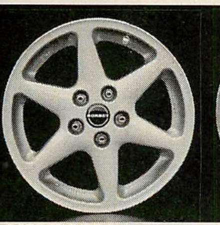
### FITTI -MONO

**Size:** 14, 15, 16"
**Fits:** Acura, Audi, BMW, Chrysler, GM (FWD), Ford, Honda, Infiniti, Isuzu, Jaguar, Lexus, Mazda, Nissan, Mercedes, Saab,Toyota, Volvo, VW.
**Finish:** Polished face and lip with silver accents and clearcoat.
**Sample Package:** 16x7.5 wheel with 205/55VR-16 Pirelli P600 **$1,516**



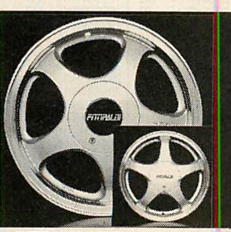
### BBS RY

**Size:** 15,17" 2 pc.
**Fits:** Audi, BMW, '93 Mazda RZX-7, Mercedes.
**Finish:** Gold or silver center with polished lip and clearcoat.
**Sample Package:** 17x8 wheel with 215/45ZR-17 Dunlop SP8000 **$3,324**



### BORBET TYPE C

**Size:** 13, 14, 15, 16, 17"
**Fits:** Acura, Audi, BMW, Ford, Honda, Infiniti, Lexus, Mazda, Mercedes, Mitsubishi, Nissan, Saab, Toyota, VW.
**Finish:** Silver with clearcoat.
**Sample Package:** 15x7 wheel with 195/60HR-15 Bridgestone Turanza **$1,000**



### FITTI -500/500S (inset)

**Size:** 15, 16"
**Fits:** Acura, Audi, BMW (3), Mercedes, Mustang, Honda, Infiniti, Nissan, VW.
**Finish:** Polished face and lip with silver accents and clearcoat.
**Sample Package:** 16x7.5 wheel with 225/55ZR-16 Pirelli P600 **$1,524**

### BBS RA NEW!

**Size:** 14,15"
**Fits:** Acura, BMW, Honda, Infiniti, Lexus, Mazda, Mitsubishi, Nissan, Toyota, VW.
**Finish:** Silver with clearcoat.
**Sample Package:** 15x6.5 wheel with 205/50VR-15 Yokohama A509 **$1,368**

### BORBET REPLICA II

**ize:** 15, 16"
**Fits:** Mercedes 201 (190E), 124 (300E, TE, 400E), 140 (new S-class).
**Finish:** Silver with clearcoat, or polished face and lip with silver accents and clearcoat.
**Sample Package:** 15x7 wheel with 195/65VR-15 Bridgestone Turanza **$1,004**

### FITTI -INDY

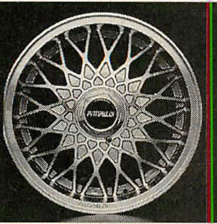
**Size:** 15, 17"
**Fits:** Acura, Audi, BMW, Honda, Infiniti, Mazda, Mercedes, Mitsubishi, Nissan, Toyota, VW.
**Finish:** Silver center with polished lip and clearcoat.
**Sample Package:** 15x6.5 wheel with 195/50ZR-15 Dunlop D40M2 **$1,188**

### BBS RS

**Size:** 15,16,17,18" 3pc.
**Fits:** Acura, Audi, BMW, Corvette, Honda, Isuzu, Jaguar, Lexus, NSX, Mazda, Mercedes, Mustang, Nissan, Porsche, Saab, Toyota, Volvo, VW.
**Finish:** Silver, gold or platinum center with polished lip and clearcoat.
**Sample Package:** 16x8 wheel with 225/55ZR-16 Dunlop SP8000 **$3,220**

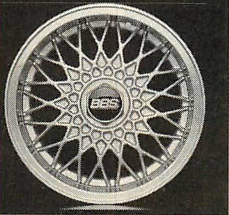
### FITTI -TWIST

**Size:** 15"
**Fits:** BMW, Honda, Mustang, Mazda, Nissan, VW.
**Finish:** Polished face and lip with silver accents and clearcoat.
**Sample Package:** 15x7 wheel with 225/60HR-15 Pirelli P500 **$1,100**



### FITTI -MESH

**Fits:** BMW, Infiniti, Lexus, Nissan, VW.
**Finish:** Polished face and lip with gold, or silver accents and clearcoat.
**Sample Package:** 15x7 wheel 205/65VR-15 Dunlop D80V4 **$1,092**



### BBS RZ

**Size:** 14, 15, 16, 17"
**Fits:** Acura, BMW, Honda, Jaguar, Mazda, Mercedes, Nissan, Probe, Thunderbird, Toyota, Volvo, VW.
**Finish:** Gold or silver center with polished lip and clearcoat.
**Sample Package:** 14x6.5 wheel with 195/65HR-14 Pirelli P600 **$1,240**

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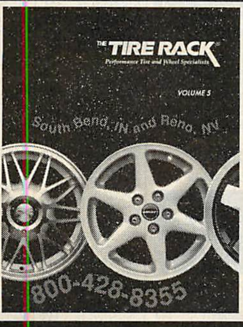
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Finish: Silver with clearcoat.

**Prices Per Wheel:**

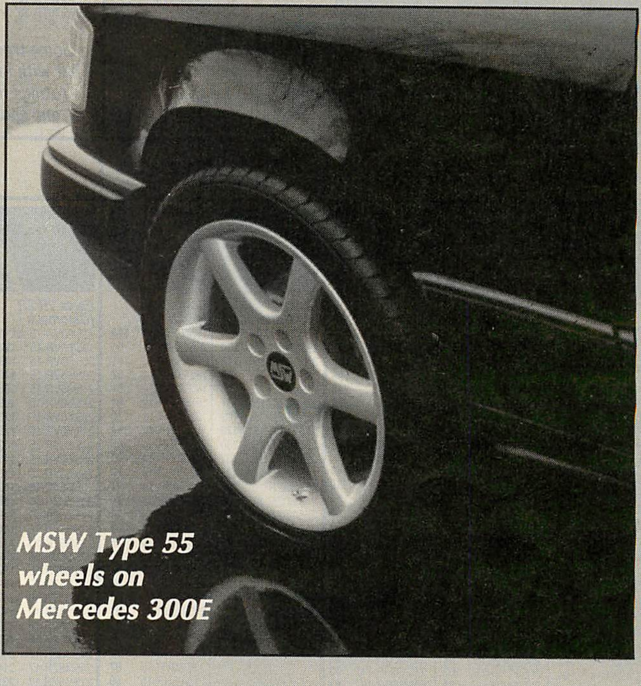
**14" • • $149 ea.**
**15" • • • 169 ea.**
**16" • • • 200 ea.**

### *MSW Type 55*

Size: 14, 15, 16, 17"
Fits: Acura, Audi, BMW, Cadillac, Chrysler/Dodge, Eagle, Ford, Geo, Honda, Infiniti, Lexus, Mazda, Mercedes, Mitsubishi, Nissan, Saturn, Toyota, Sterling, VW.
Finish: Silver with clearcoat.

**Prices Per Wheel:**

**14" • • $149 ea.**
**15" • • • 169 ea.**
**16" • • • 200 ea.**
**17" • • • 247 ea.**



***MSW Type 55 wheels on Mercedes 300E***

### MSW TYPE 31

**Size:** 13, 14, 15, 16, 17"
**Fits:** Acura, Audi, BMW, Ford, Honda, Lexus, Mazda Mercedes, Mitsubishi, Nissan, Toyota, Volvo, VW.
**Finish:** Silver center with polished lip and clearcoat.
**Sample Package:** 15x7 wheel with 195/50VR-15 Yokohama A509 **$996**

### MSW TYPE 21

**Size:** 14, 15"
**Fits:** Acura, Audi, BMW, Ford, Honda, Infiniti, Mazda, Mitsubishi, Mercedes, Nissan, Toyota, Volvo, VW.
**Finish:** Polished face and lip with silver or gold accents.
**Sample Package:** 15x7 wheel with 195/50VR-15 Yokohama A509 **$956**

### MSW TYPE 23

**Fits:***SPECIAL* for VW's
**Finish:** Polished face and lip with silver accents and clearcoat.
**Package:** 15×7 wheel with 195/50VR-15 Fulda Y2000 **$632**

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| | |
|---|---|
| 185/60VR-14 | $78 |
| 195/60VR-14 | 84 |
| 195/60VR-15 | 94 |
| 205/60VR-15 | 100 |
| 215/60VR-15 | 107 |
| 235/60VR-15 | 109 |
| 205/55VR-16 | 155 |
| 225/50VR-16 | 156 |
| 255/50VR-16 | 159 |

**AVS U+4 All-Season**

| | |
|---|---|
| 185/60HR-14 | $67 |
| 195/60HR-14 | 76 |
| 205/60HR-14 | 84 |
| 215/60HR-14 | 89 |
| 225/60HR-14 | 89 |
| 195/60HR-15 | 83 |
| 195/65HR-15 | 84 |
| 205/60HR-15 | 89 |
| 205/65HR-15 | 88 |
| 215/60HR-15 | 95 |
| 215/65HR-15 | 90 |
| 225/60HR-15 | 108 |
| 235/60HR-15 | 106 |
| 215/60HR-16 | 103 |

**A022**

| | |
|---|---|
| 195/55VR-15 | $124 |
| 205/50ZR-15 | 152 |
| 205/55VR-15 | 129 |
| 225/50VR-15 | 149 |
| 225/50VR-16 | 166 |
| 225/50ZR-16 | 189 |
| 225/55VR-16 | 206 |

**A378 All Season TOuring Tire**

| | |
|---|---|
| 175/70HR-13 | $49 |
| 185/70HR-13 | 50 |
| 185/60HR-14 | 53 |
| 185/70HR-14 | 52 |
| 195/60HR-14 | 60 |
| 195/70HR-14 | 53 |
| 205/70HR-14 | 54 |
| 215/60HR-14 | 68 |
| 195/60HR-15 | 64 |
| 205/60HR-15 | 68 |
| 205/65HR-15 | 67 |
| 215/60HR-15 | 75 |
| 215/65HR-15 | 71 |
| 235/60HR-15 | 77 |
| 215/60HR-16 | 80 |
| 225/60HR-16 | 84 |

**Y352**

| | |
|---|---|
| 215/50HR-13* | 79 |
| 185/70HR-14 | 62 |
| 195/70HR-14* | 66 |
| 205/70HR-14 | 69 |
| 235/60HR-14* | 85 |
| 245/50HR-14* | 97 |
| 245/60HR-15* | 93 |
| 255/60HR-15* | 94 |
| 275/60HR-15* | 99 |
| 295/50HR-15* | 120 |

**A403**

| | |
|---|---|
| 195/50VR-15 | $88 |
| 205/50VR-15 | 103 |
| 225/50VR-15 | 117 |
| 205/55VR-16 | 126 |
| 225/50VR-16 | 129 |
| 245/45VR-16 | 148 |
| 245/50VR-16 | 129 |
| 255/50VR-16 | 135 |

**AVS** *Intermediate*

| | |
|---|---|
| 185/60VR-13 | $77 |
| 205/60VR-13 | 90 |
| 185/60VR-14 | 83 |
| 195/60VR-14 | 93 |
| 195/65VR-14 | 90 |
| 205/60VR-14 | 95 |
| 225/60VR-14 | 109 |
| 185/65VR-15 | 86 |
| 195/45ZR-15 | 113 |
| 195/50ZR-15 | 119 |
| 195/55ZR-15 | 135 |
| 195/60VR-15 | 95 |
| 195/65VR-15 | 93 |
| 205/50ZR-15 | 135 |
| 205/55ZR-15 | 156 |
| 205/60VR-15 | 106 |
| 205/65VR-15 | 104 |
| 215/60VR-15 | 116 |
| 225/50ZR-15 | 159 |
| 225/60VR-15 | 124 |
| 235/60VR-15 | 129 |
| 255/45ZR-15 | 207 |
| 285/40ZR-15 | 208 |
| 345/35ZR-15 | 236 |
| 195/50ZR-16 | 119 |
| 205/50ZR-16 | 148 |
| 205/55ZR-16 | 147 |
| 225/45ZR-16 | 177 |
| 225/50ZR-16 | 145 |
| 225/55ZR-16 | 203 |
| 245/45ZR-16 | 191 |
| 245/50ZR-16 | 169 |
| 255/50ZR-16 | 179 |
| 235/45ZR-17 | 194 |
| 255/40ZR-17 | 168 |
| 275/40ZR-17 | 205 |
| 315/35ZR-17 | 259 |

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**A008P Porsche**

| | |
|---|---|
| 195/65ZR-15 | $101 |
| 215/60ZR-15 | 126 |
| 205/55ZR-16 | 187 |
| 225/50ZR-16 | 191 |
| 245/45ZR-16 | 203 |
| 205/50ZR-17 | 193 |
| 225/45ZR-17 | 199 |
| 255/40ZR-17 | 219 |

**A008G**

| | |
|---|---|
| 165/70HR-10 | $57 |
| 175/70HR-12 | 66 |
| 205/55ZR-14 | 119 |
| 195/50ZR-15 | 111 |
| 205/50ZR-15 | 131 |
| 205/55ZR-15 | 154 |
| 225/50ZR-15 | 147 |
| 205/55ZR-16 | 161 |
| 225/45ZR-16 | 165 |
| 225/50ZR-16 | 171 |
| 245/45ZR-16 | 175 |
| 245/50ZR-16 | 163 |
| 255/50ZR-16 | 164 |
| 235/45ZR-17 | 193 |
| 255/40ZR-17 | 172 |

**A509**

| | |
|---|---|
| 185/60HR-13 | $58 |
| 205/60HR-13 | 69 |
| 185/60HR-14 | 65 |
| 195/60HR-14 | 72 |
| 205/60HR-14 | 78 |
| 225/60HR-14 | 84 |
| 195/50VR-15 | 90 |
| 195/60HR-15 | 75 |
| 205/50VR-15 | 111 |
| 205/60HR-15 | 81 |
| 205/65HR-15 | 79 |
| 205/65VR-15 | 89 |
| 215/60HR-15 | 89 |
| 215/65HR-15 | 84 |
| 215/65VR-15 | 90 |
| 225/50VR-15 | 119 |
| 225/60VR-15 | 100 |
| 205/55VR-16 | 115 |
| 225/50VR-16 | 115 |

**A008RSII** *(Autocross Tire)*

| | |
|---|---|
| 185/60SR-13 | $81 |
| 185/60SR-14 | 86 |
| 205/55VR-14 | 119 |
| 215/60VR-15 | 108 |
| 225/50VR-15 | 127 |
| 255/50VR-16 | 137 |

**A008RS** *(Race)*

| | |
|---|---|
| 185/60HR-13 | $80 |
| 185/70HR-13 | 80 |
| 205/60HR-13 | 86 |
| 185/60HR-14 | 86 |
| 195/60HR-14 | 89 |
| 205/55ZR-14 | 105 |
| 205/60HR-14 | 104 |
| 215/60HR-14 | 105 |
| 225/60HR-14 | 112 |
| 195/50ZR-15 | 115 |
| 195/60HR-15 | 111 |
| 205/50ZR-15 | 120 |
| 205/60HR-15 | 111 |
| 215/60HR-15 | 118 |
| 225/50ZR-15 | 127 |
| 225/60HR-15 | 109 |
| 205/55ZR-16 | 124 |
| 225/50ZR-16 | 129 |
| 245/45ZR-16 | 135 |
| 255/50ZR-16 | 135 |

**A008RTU** *(Race)*

| | |
|---|---|
| 205/55ZR16 | $85 |

**A008R** *(Race)*

| | |
|---|---|
| 185/70HR-15 | $92 |

## PIRELLI

INTRODUCING
PIRELLI
TIRES FOR YOUR "OTHER" CAR

- ➢ High Traction
- ➢ Sportier Appearance
- ➢ Low Noise

**P300**

155/80SR-13
165/80SR-13
175/70TR-13
175/80SR-13**
175/80SR-13
185/70TR-13
185/80SR-13**
185/80SR-13
185/70TR-14**
185/70TR-14
185/75TR-14**
195/70TR-14**
195/70TR14
195/75TR-14**
205/70TR-14**
205/70TR-14
205/75TR-14**
205/70TR-15**
205/75TR-15**
215/70TR-15**
215/75TR-15**
225/75TR-15**
235/75TR-15**
235/75SR-15XL**

*Call for lower prices!!*

**P300 APT**

205/70TR-14*L
215/70TR-14*
205/70TR-15*
215/75TR-15*
225/70TR-15*
225/75TR-15*
235/75SR-15*

*Same tread as above but with increased load ratings for minivans and sport utilities.*

## Original Equipment on the World's Finest

## PIRELLI

**P500 All Season**

| | |
|---|---|
| 175/70HR-13 | $54 |
| 185/70HR-13 | 58 |
| 185/60HR-14 | 66 |
| 185/70HR-14 | 60 |
| 195/60HR-14 | 71 |
| 195/70HR-14 | 64 |
| 205/70HR-14 | 68 |
| 215/60HR-14 | 77 |
| 195/60HR-15 | 77 |
| 195/65HR-15 | 79 |
| 205/60HR-15 | 81 |
| 215/60HR-15 | 84 |
| 215/65HR-15 | 85 |
| 225/60HR-15 | 86 |

**P4/P44**

| | |
|---|---|
| 145 SR-12 | $36 |
| 155 SR-12 | 36 |
| 145 SR-13 | 37 |
| 155 SR-13 | 39 |
| 155/70SR-13 | 42 |
| 165 SR-13 | 36 |
| 165/70TR-13 | 47 |
| 175 SR-13 | 47 |
| 175/70TR-13 | 50 |
| 175/80SR-13** | 48 |
| 185/70TR-13 | 54 |
| 185/80SR-13 | 50 |
| 185/80SR-13** | 53 |
| 165 TR-14 | 45 |
| 175 TR-14 | 46 |
| 185 SR-14 | 49 |
| 185/70SR-14 | 60 |
| 185/75SR-14** | 62 |
| 195/70TR-14 | 65 |
| 195/75SR-14** | 66 |
| 205/70SR-14 | 67 |
| 185/65SR-15 | 64 |
| 195/65SR-15 | 65 |
| 205/65SR-15 | 69 |
| 205/75SR-15** | 71 |
| 215/70SR-15** | 75 |
| 215/75SR-15** | 77 |
| 225/70SR-15** | 88 |

**P6**

| | |
|---|---|
| 175/70HR-13 | $62 |
| 185/60HR-13 | 75 |
| 185/70HR-13 | 66 |
| 205/60HR-13 | 89 |
| 175/70HR-14 | 67 |
| 185/60HR-14 | 54 |
| 185/65HR-14 | 84 |
| 185/70HR-14 | 72 |
| 195/60VR-14 | 107 |
| 195/60HR-14 | 58 |
| 195/65HR-14 | 90 |
| 195/65VR-14 | 100 |
| 195/70VR-14 | 98 |
| 205/70HR-14 | 90 |
| 205/70VR-14 | 105 |
| 225/60VR-14 | 132 |
| 185/65HR-15 | 93 |
| 195/60HR-15 | 66 |
| 195/60VR-15 | 110 |
| 195/65HR-15 | 90 |
| 195/65VR-15 | 109 |
| 205/55ZR-15 | 129 |
| 205/60HR-15 | 70 |
| 205/60VR-15 | 99 |
| 205/65VR-15 | 116 |
| 215/60HR-15 | 76 |
| 215/60VR-15 | 121 |
| 215/65VR-15 | 85 |

**P77 All Season**

| | |
|---|---|
| 175/70HR-13 | $60 |
| 185/70HR-13 | 63 |
| 205/70HR-13** | 64 |
| 205/70HR-13 | 68 |
| 185/70HR-14 | 66 |
| 185/75HR-14** | 66 |
| 195/70HR-14 | 69 |
| 195/70HR-14** | 64 |
| 195/75HR-14** | 69 |
| 205/70HR-14 | 77 |
| 205/70HR-14** | 70 |
| 205/75HR-15 | 78 |
| 205/75HR-15** | 75 |
| 215/75HR-15** | 76 |
| 225/70HR-15 | 86 |
| 225/70HR-15** | 78 |
| 225/70SR-15 | 80 |

**P600**

| | |
|---|---|
| 185/60HR-14 | $75 |
| 185/65HR-14 | 85 |
| 195/55HR-14 | 108 |
| 195/60HR-14 | 83 |
| 195/60VR-14 | 112 |
| 195/65HR-14 | 95 |
| 205/55HR-14 | 107 |
| 205/55VR-14 | 115 |
| 205/60HR-14 | 109 |
| 205/60VR-14 | 90 |
| 185/55VR-15 | 108 |
| 195/50HR-15 | 107 |
| 195/50VR-15 | 120 |
| 195/55VR-15 | 123 |
| 195/60HR-15 | 104 |
| 195/60VR-15 | 121 |
| 195/65HR-15 | 103 |
| 195/65VR-15 | 127 |
| 195/65ZR-15 | 145 |
| 205/55HR-15 | 124 |
| 205/55VR-15 | 125 |
| 205/60HR-15 | 111 |
| 205/60VR-15 | 123 |
| 205/65HR-15 | 110 |
| 205/65VR-15 | 131 |
| 215/60HR-15 | 121 |
| 215/60ZR-15 | 141 |
| 215/65ZR-15 | 151 |
| 225/60VR-15 | 155 |
| 225/60ZR-15 | 159 |
| 235/60VR-15 | 165 |
| 205/55VR-16 | 150 |
| 225/55ZR-16 | 129 |
| 225/60VR-16 | 136 |
| 235/60ZR-16 | 169 |

**P5**

| | |
|---|---|
| 175/70HR-13 | $78 |
| 205/70VR-15 | 134 |
| 215/70VR-15 | 141 |

**P3**

| | |
|---|---|
| 145SR-10 | $31 |
| 155SR-15 | 45 |
| 165SR-15 | 49 |

**SCORPION**

| | |
|---|---|
| 345/60VR-17 | $1,249 |

**P700Z High Performance**

| | |
|---|---|
| 195/50ZR-15 | $129 |
| 205/50ZR-15 | 155 |
| 215/50VR-15 | 173 |
| 225/50ZR-15 | 175 |
| 205/45ZR-16 | 187 |
| 205/50ZR-16 | 185 |
| 205/55ZR-16 | 173 |
| 225/45ZR-16 | 185 |
| 225/50ZR-16$^{NO}$ | 179 |
| 235/50ZR-16 | 279 |
| 245/45ZR-16 | 214 |
| 245/50ZR-16 | 215 |
| 205/40ZR-17 | 235 |
| 205/50ZR-17 | 220 |
| 215/40ZR-17 | 245 |
| 215/45ZR-17 | 250 |
| 215/50ZR-17 | 240 |
| 235/40ZR-17 | 259 |
| 235/45ZR-17 | 260 |
| 245/35ZR-17 | 280 |
| 245/45ZR-17 | 260 |
| 255/40ZR-17 | 285 |
| 255/45ZR-17 | 270 |
| 265/40ZR-17 | 248 |

**P7/P7F/P7R**

| | |
|---|---|
| 175/70VR-13F | $85 |
| 195/50VR-15 | 97 |
| 205/50VR-15 | 114 |
| 225/50VR-15 | 129 |
| 225/50VR-15R | 180 |
| 345/35VR-15R | 270 |
| 205/55VR-16 | 134 |
| 225/50VR-16 | 145 |
| 245/45VR-16 | 167 |
| 255/50VR-16 | 158 |

**P700**

| | |
|---|---|
| 195/50ZR-16 | $168 |
| 205/50ZR-16 | 210 |
| 215/45ZR-17 | 235 |

**PZERO Ultra High Performance**

| | |
|---|---|
| 205/50ZR-15 | $163 |
| 225/50ZR-15 | 184 |
| 345/35ZR-15 | 303 |
| 205/55ZR-16 | 194 |
| 225/45ZR-16 | 199 |
| 225/50ZR-16 | 199 |
| 245/45ZR-16 | 225 |
| 205/50ZR-17 | 235 |
| 225/45ZR-17 | 268 |
| 235/45ZR-17 | 268 |
| 245/40ZR-17 | 279 |
| 245/45ZR-17 | 280 |
| 255/40ZR-17 | 297 |
| 265/40ZR-17 | 290 |
| 275/40ZR-17 | 333 |
| 315/35ZR-17 | 380 |
| 335/35ZR-17 | 429 |
| 225/40ZR-18 | 419 |
| 235/40ZR-18 | 428 |
| 245/40ZR-18 | 431 |
| 255/35ZR-18 | 470 |
| 255/45ZR-18 | 395 |
| 265/35ZR-18 | 498 |
| 275/35ZR-18 | 499 |
| 295/35ZR-18 | 512 |
| 295/40ZR-18 | 465 |
| 315/30ZR-18 | 538 |
| 255/40ZR-19 | 545 |
| 295/35ZR-19 | 565 |

**P2000**

| | |
|---|---|
| 165/65TR-13 | $46 |
| 165/65TR-14 | 49 |
| 185/65TR-15 | 67 |

**P4000**

| | |
|---|---|
| 195/65VR-15 | $161 |
| 225/65ZR-15 | 171 |

**P66**

| | |
|---|---|
| 185/70HR-14 | $90 |

**P8**

| | |
|---|---|
| 185/65TR-15 | $71 |

## BRIDGESTONE

**RE71 Potenza High Performance**

| | |
|---|---|
| 205/60VR-13 | $118 |
| 195/55VR-14 | 120 |
| 195/60HR-14 | 106 |
| 195/60VR-14 | 121 |
| 205/60HR-14 | 114 |
| 205/60VR-14 | 125 |
| 225/60VR-14 | 145 |
| 195/50ZR-15 | 123 |
| 195/60VR-15 | 123 |
| 195/65ZR-15 | 143 |
| 205/50ZR-15 | 146 |
| 205/60VR-15 | 129 |
| 215/60VR-15 | 138 |
| 225/50ZR-15 | 162 |
| 225/60VR-15 | 145 |
| 235/60VR-15 | 145 |
| 245/50ZR-15 | 186 |
| 205/55VR-16 | 173 |
| 205/55ZR-16 | 173 |
| 225/50VR-16 | 185 |
| 225/50ZR-16 | 182 |
| 245/45ZR-16 | 194 |
| 245/50ZR-16 | 196 |
| 255/50ZR-16 | 204 |
| 215/50ZR-17 | 188 |
| 235/45ZR-17 | 205 |
| 245/40ZR-17 | 213 |
| 255/40ZR-17 | 222 |
| 255/45ZR-17 | 216 |
| 275/40ZR-17 | 275 |
| 315/35ZR-17 | 332 |
| 335/35ZR-17 | 346 |

**Turanza All Season Touring Tire**

| | |
|---|---|
| 175/70SR-13 | $51 |
| 185/70SR-13 | 57 |
| 185/60HR-14 | 74 |
| 185/70SR-14 | 61 |
| 185/70HR-14 | 67 |
| 195/60HR-14 | 78 |
| 195/65HR-14 | 80 |
| 195/65VR-14 | 101 |
| 195/70SR-14 | 63 |
| 195/70HR-14 | 71 |
| 205/70SR-14 | 67 |
| 205/70HR-14 | 74 |
| 215/60SR-14 | 75 |
| 215/70SR-14 | 70 |
| 215/70HR-14 | 78 |
| 185/65HR-15 | 78 |
| 195/60HR-15 | 79 |
| 195/65HR-15 | 81 |
| 195/65VR-15 | 102 |
| 205/60SR-15 | 70 |
| 205/60HR-15 | 81 |
| 205/60VR-15 | 104 |
| 205/65SR-15 | 72 |
| 205/65HR-15 | 84 |
| 205/65VR-15 | 107 |
| 205/70SR-15 | 74 |
| 215/60HR-15 | 89 |
| 215/60SR-15 | 73 |
| 215/65SR-15 | 76 |
| 215/65HR-15 | 89 |
| 215/70SR-15 | 76 |
| 215/70VR-15 | 102 |
| 225/60VR-15 | 116 |
| 225/70SR-15 | 76 |
| 215/60SR-16 | 80 |
| 225/60SR-16 | 84 |
| 225/60VR-16 | 124 |

**Expedia Ultra High Performance**

| | |
|---|---|
| 195/55VR-15 | $162 |
| 205/55VR-15 | 162 |
| 225/50ZR-16 | 196 |
| 205/50ZR-17 | 213 |
| 225/45ZR-17 | 228 |
| 255/40ZR-17 | 252 |

**HP41 Potenza All Season**

| | |
|---|---|
| 175/70HR-13 | $48 |
| 185/70HR-13 | 55 |
| 185/70HR-13* | 57 |
| 205/60HR-13* | 65 |
| 185/60HR-14 | 64 |
| 185/70HR-14 | 59 |
| 195/60HR-14 | 68 |
| 195/60HR-14* | 57 |
| 195/70HR-14 | 61 |
| 195/70HR-14* | 59 |
| 205/70HR-14 | 65 |
| 205/70HR-14* | 68 |
| 215/60HR-14* | 77 |
| 215/70HR-14* | 71 |
| 225/60HR-14* | 80 |
| 235/60HR-14* | 83 |
| 185/65HR-15 | 67 |
| 195/60HR-15 | 69 |
| 195/65HR-15 | 71 |
| 205/60HR-15 | 72 |
| 215/60HR-15 | 77 |
| 215/65HR-15 | 78 |
| 215/65HR-15* | 82 |
| 225/60HR-15* | 85 |
| 225/70HR-15* | 78 |
| 235/60HR-15* | 86 |
| 235/70HR-15* | 81 |
| 255/60HR-15* | 91 |

Whether you need Replacement or Original Equipment Tires...

*WE are the experts* who can match your needs to the perfect tire.

## BFGoodrich Tires

**Comp T/A 3 3rd Generation Comp T/A**

| | |
|---|---|
| 195/50ZR-15 | $94 |
| 205/50ZR-15 | 114 |
| 205/55ZR-15 | 95 |
| 215/60ZR-15 | 98 |
| 225/50ZR-15 | 121 |
| 225/60ZR-15 | 101 |
| 245/50ZR-15 | 129 |
| 205/55ZR-16 | 130 |
| 225/50ZR-16 | 137 |
| 225/55ZR-16 | 130 |
| 245/45ZR-16 | 146 |
| 245/50ZR-16 | 143 |
| 255/50ZR-16 | 148 |
| 205/50ZR-17 | 157 |
| 215/45ZR-17 | 150 |
| 225/45ZR-17 | 168 |
| 235/45ZR-17 | 163 |
| 255/40ZR-17 | 171 |
| 275/40ZR-17 | 173 |
| 315/35ZR-17 | 208 |
| 235/40ZR-18 | 213 |
| 245/40ZR-18 | 222 |

**Comp T/A VR**

| | |
|---|---|
| 185/60VR-13 | $76 |
| 195/60VR-14 | 93 |
| 195/50VR-15 | 81 |
| 205/50VR-15 | 86 |
| 225/50VR-15 | 98 |
| 205/60VR-15 | 88 |
| 205/65VR-15 | 119 |
| 215/60VR-15 | 111 |
| 225/60VR-15 | 99 |
| 235/60VR-15 | 116 |
| 255/60VR-15 | 121 |
| 205/55VR-16 | 95 |
| 225/50VR-16 | 106 |
| 245/45VR-16 | 117 |
| 245/50VR-16 | 135 |
| 255/50VR-16 | 113 |

**Comp T/A HR4 & VR4**

| | |
|---|---|
| 185/70HR-13 | $58 |
| 205/60HR-13* | 65 |
| 205/60HR-13 | 61 |
| 185/60HR-14 | 62 |
| 185/70HR-14 | 61 |
| 195/60HR-14 | 64 |
| 195/60VR-14 | 76 |
| 195/70HR-14 | 64 |
| 205/70HR-14 | 65 |
| 215/60HR-14* | 70 |
| 215/60HR-14 | 70 |
| 225/60HR-14* | 71 |
| 225/60HR-14 | 70 |
| 235/60HR-14* | 74 |
| 185/65HR-15 | 63 |
| 185/65VR-15 | 76 |
| 195/60HR-15 | 65 |
| 195/60VR-15 | 81 |
| 195/65HR-15 | 66 |
| 195/65VR-15 | 82 |
| 205/60HR-15 | 65 |
| 205/60VR-15 | 81 |
| 205/65VR-15 | 85 |
| 215/60HR-15 | 74 |
| 215/60VR-15 | 87 |
| 215/65HR-15* | 59 |
| 215/65HR-15 | 72 |
| 225/60HR-15 | 74 |
| 225/60VR-15 | 90 |
| 235/60HR-15* | 84 |
| 235/60VR-15 | 94 |
| 255/60HR-15* | 89 |
| 275/60HR-15* | 99 |
| 205/55VR-16 | 115 |
| 215/60VR-16 | 196 |
| 225/50VR-16 | 125 |
| 225/55VR-16 | 121 |
| 225/60VR-16 | 101 |
| 245/45VR-16 | 137 |
| 245/50VR-16 | 137 |
| 255/50VR-16 | 118 |
| 275/50VR-16 | 126 |
| 275/60HR-17 | 139 |

**Comp T/A ZR**

| | |
|---|---|
| 255/50ZR-16 | $123 |

**Touring T/A**

| | |
|---|---|
| 205/65SR-15 | $50 |
| 215/60HR-16 | 72 |

## GOODYEAR

**Eagle VR/ZR (Gatorback )**

| | |
|---|---|
| 205/60VR-13 | $115 |
| 195/60VR-15 | 122 |
| 205/50VR-15 | 139 |
| 205/60VR-15 | 126 |
| 215/60VR-15 | 108 |
| 225/50VR-15 | 109 |
| 225/60VR-15 | 125 |
| 245/50VR-15 | 172 |
| 245/60VR-15 | 132 |
| 255/60VR-15 | 141 |
| 265/50VR-15 | 175 |
| 205/55VR-16 | 152 |
| 205/55ZR-16 | 168 |
| 225/50ZR-16 | 149 |
| 225/55VR-16 | 168 |
| 225/55ZR-16 | 178 |
| 225/60VR-16 | 129 |
| 225/60ZR-16 | 139 |
| 245/45ZR-16 | 159 |
| 245/50VR-16 | 167 |
| 245/50ZR-16 | 173 |
| 255/50VR-16 | 179 |
| 255/50ZR-16 | 187 |
| 245/40ZR-17 | 215 |
| 245/45ZR-17 | 214 |
| 275/40ZR-17 | 231 |
| 285/35ZR-17 | 210 |
| 315/35ZR-17 | 300 |

**Eagle VR/ZR** *(German Made)*

| | |
|---|---|
| 215/50ZR-15 | $168 |
| 205/55ZR-16 | 145 |
| 205/55ZR-16$^{N1}$ | 161 |
| 225/45ZR-16 | 145 |
| 225/50ZR-16 | 165 |
| 225/50ZR-16$^{N1}$ | 175 |
| 225/55ZR-16 | 182 |
| 245/45ZR-16 | 161 |
| 245/50ZR-16 | 190 |
| 245/55ZR-16 | 163 |
| 255/50ZR-16 | 195 |
| 235/45ZR-17 | 209 |
| 255/45ZR-17 | 222 |
| 265/40ZR-17 | 244 |

**Eagle GS-D**

| | |
|---|---|
| 205/45ZR-16 | $193 |
| 225/50ZR-16 | 167 |
| 225/55VR-16 | 159 |

**Eagle GS-C New!!**

| | |
|---|---|
| 205/50ZR-15 | $156 |
| 225/50ZR-15 | 179 |
| 205/55ZR-16 | 173 |
| 225/50ZR-16 | 184 |
| 245/45ZR-16 | 205 |
| 245/50ZR-16 | 195 |
| 255/50ZR-16 | 202 |
| 255/45ZR-17 | 229 |
| 275/40ZR-17 | 252 |
| 285/40ZR-17 | 266 |
| 315/35ZR-17 | 308 |

**Eagle GS-A NEW!!**

| | |
|---|---|
| 235/45ZR-17 | $229 |
| 335/35ZR-17 | 341 |
| 235/45ZR-17 | 229 |
| 335/35ZR-18 | 341 |
| 235/40ZR-18 | 250 |
| 295/35ZR-18 | 330 |

**Eagle GS-C Import**

| | |
|---|---|
| 255/40ZR-19 | $275 |

**GS-N NEW!!**

| | |
|---|---|
| 205/60HR-15 | $122 |
| 225/55VR-15 | 143 |

**Eagle GT+4**

| | |
|---|---|
| 175/70TR-13* | $63 |
| 185/60TR-14 | 83 |
| 185/70TR-14* | 86 |
| 195/60HR-14 | 108 |
| 195/60TR-14* | 93 |
| 195/70 R-14* | 95 |
| 195/70 R-14 | 88 |
| 205/60TR-14* | 97 |
| 205/70HR-14 | 105 |
| 205/70TR-14* | 96 |
| 215/60UR-14 | 95 |
| 215/60UR-14* | 100 |
| 215/70HR-14 | 111 |
| 225/60HR-14* | 105 |
| 235/60TR-14* | 106 |
| 185/60HR-15 | 87 |
| 195/60HR-15 | 106 |
| 195/70UR-15 | 91 |
| 205/60HR-15 | 118 |
| 205/60TR-15 | 96 |
| 205/60TR-15* | 106 |
| 205/65HR-15 | 103 |
| 205/70TR-15 | 95 |
| 215/60 R-15 | 98 |
| 215/65 R-15* | 105 |
| 215/65HR-15 | 116 |
| 215/65UR-15 | 98 |
| 215/65UR-15** | 109 |
| 215/65VR-15 | 124 |
| 215/70HR-15 | 115 |
| 225/50HR-15 | 136 |
| 225/60HR-15 | 105 |
| 225/70HR-15** | 121 |
| 225/70HR-15 | 119 |
| 225/70TR-15* | 106 |
| 235/70VR-15 | 127 |
| 235/70VR-15** | 139 |
| 245/60TR-15* | 114 |
| 255/60TR-15* | 117 |
| 205/55HR-16 | 113 |
| 205/55VR-16 | 129 |
| 205/55UR-16 | 106 |
| 215/60UR-16 | 101 |
| 215/60VR-16 | 131 |
| 225/50VR-16 | 127 |
| 225/55HR-16 | 135 |
| 225/60TR-16 | 114 |
| 225/60UR-16 | 110 |
| 225/60VR-16 | 142 |
| 225/60ZR-16 | 134 |
| 245/50HR-16 | 148 |
| 255/50VR-16 | 153 |

**Aquatred**

| | |
|---|---|
| 175/70SR-13 | $62 |
| 185/70SR-13 | 65 |
| 185/70SR-14 | 69 |
| 185/75SR-14‡ | 70 |
| 195/70SR-14 | 72 |
| 195/75SR-14‡ | 74 |
| 205/70SR-14‡ | 76 |
| 205/75SR-14‡ | 80 |
| 205/70SR-14 | 76 |
| 215/70SR-14 | 80 |
| 205/70SR-15 | 80 |
| 205/70SR-15‡ | 84 |
| 205/75SR-15 | 82 |
| 215/70SR-15 | 85 |
| 215/70SR-15‡ | 89 |

**Eagle GA**

| | |
|---|---|
| 185/70TR-13 | $77 |
| 185/65SR-14 | 85 |
| 185/70TR-14 | 80 |
| 195/60HR-14 | 103 |
| 195/70SR-14 | 84 |
| 205/60TR-14 | 89 |
| 205/70HR-14 | 105 |
| 215/60TR-14 | 94 |
| 195/60HR-15 | 101 |
| 195/60VR-15 | 116 |
| 195/65HR-15 | 89 |
| 205/60HR-15 | 112 |
| 205/60SR-15 | 91 |
| 205/60SR-15* | 79 |
| 205/60TR-15 | 99 |
| 205/65TR-15** | 100 |
| 205/65VR-15 | 116 |
| 205/70TR-15 | 93 |
| 215/60HR-15 | 112 |
| 215/60VR-15 | 91 |
| 215/60VR-15 | 122 |
| 215/65SR-15 | 90 |
| 215/65SR-15** | 106 |
| 215/65TR-15 | 99 |
| 215/70HR-15 | 117 |
| 215/70TR-15** | 100 |
| 225/70SR-15** | 103 |
| 225/70TR-15 | 100 |
| 225/70TR-15* | 106 |
| 235/70SR-15** | 109 |
| 205/55SR-16 | 97 |
| 215/60SR-16 | 97 |
| 225/60HR-16 | 123 |
| 225/60SR-16 | 99 |
| 225/60VR-16 | 133 |
| 225/60ZR-16 | 133 |
| 235/55SR-16 | 114 |

**NCT**

| | |
|---|---|
| 175/70HR-14 | $97 |
| 185/60HR-14 | 85 |
| 185/70HR-14 | 73 |
| 195/60HR-14 | 79 |
| 195/60VR-14 | 88 |
| 195/65HR-14 | 109 |
| 195/65VR-14 | 100 |
| 185/65HR-15 | 108 |
| 195/60VR-15 | 118 |
| 205/55VR-15 | 95 |
| 205/60HR-15 | 105 |
| 205/60VR-15 | 118 |
| 225/50VR-15 | 109 |
| 235/60VR-15 | 135 |
| 235/60ZR-15 | 143 |
| 235/70HR-15** | 142 |
| 235/70VR-15 | 136 |

**NCT2**

| | |
|---|---|
| 185/60HR-14 | $104 |
| 195/60VR-14 | 114 |
| 185/65HR-15 | 108 |
| 195/65HR-15 | 115 |
| 195/65VR-15 | 99 |
| 225/60VR-16 | 99 |

**Invicta GA**

| | |
|---|---|
| 185/70TR-14 | $61 |
| 195/75TR-14 | 59 |
| 205/65VR-15 | 85 |
| 205/70TR-15 | 62 |
| 205/70TR-15 | 62 |
| 215/60VR-15 | 84 |
| 235/75SR-15 | 74 |

## DUNLOP OUTPERFORMS

**SP Sport 8000**

| | |
|---|---|
| 195/55ZR-14 | $123 |
| 195/50ZR-15 | 129 |
| 195/55ZR-15 | 141 |
| 205/50ZR-15 | 164 |
| 205/55ZR-15 | 145 |
| 215/50ZR-15 | 183 |
| 225/50ZR-15 | 184 |
| 245/50ZR-15 | 195 |
| 205/55ZR-16 | 175 |
| 215/55ZR-16 | 183 |
| 225/40ZR-16 | 175 |
| 225/45ZR-16 | 208 |
| 225/50ZR-16 | 188 |
| 225/55ZR-16 | 190 |
| 245/45ZR-16 | 215 |
| 245/50ZR-16 | 203 |
| 255/50ZR-16 | 209 |
| 205/50ZR-17 | 197 |
| 215/45ZR-17 | 243 |
| 225/45ZR-17 | 233 |
| 235/45ZR-17 | 233 |
| 245/40ZR-17 | 253 |
| 255/40ZR-17 | 259 |
| 255/45ZR-17 | 251 |
| 265/40ZR-17 | 261 |
| 275/40ZR-17 | 268 |
| 315/35ZR-17 | 323 |
| 335/35ZR-17 | 363 |
| 225/40ZR-18 | 376 |
| 235/40ZR-18 | 383 |
| 255/35ZR-18 | 423 |
| 255/45ZR-18 | 346 |
| 265/35ZR-18 | 436 |
| 285/35ZR-18 | 454 |
| 255/40ZR-19 | 500 |

**D80V4**

| | |
|---|---|
| 195/60VR-15 | $98 |
| 195/65VR-15 | 100 |
| 205/60VR-15 | 103 |
| 205/65HR-15 | 64 |
| 205/65VR-15 | 106 |
| 215/60VR-15 | 108 |
| 215/65VR-15 | 113 |
| 225/60VR-15 | 115 |

**D60M2**

| | |
|---|---|
| 195/65HR-15 | $63 |
| 205/65HR-15 | 75 |

**D40M2**

| | |
|---|---|
| 195/55VR-14 | $117 |
| 195/50ZR-15 | 108 |
| 195/60VR-15 | 126 |
| 195/65VR-15 | 119 |
| 205/50ZR-15 | 146 |
| 205/55ZR-15 | 123 |
| 205/60VR-15 | 129 |
| 205/65VR-15 | 108 |
| 215/60ZR-15 | 129 |
| 225/50ZR-15 | 159 |
| 225/60ZR-15 | 131 |
| 235/60VR-15 | 130 |
| 245/50ZR-15 | 176 |
| 205/55ZR-16 | 145 |
| 225/50ZR-16 | 152 |
| 225/55ZR-16 | 175 |
| 225/60VR-16 | 142 |
| 245/45ZR-16 | 168 |
| 245/50ZR-16 | 181 |
| 245/55ZR-16 | 198 |
| 255/50ZR-16 | 189 |
| 215/45ZR-17 | 174 |
| 235/45ZR-17 | 190 |
| 245/40ZR-17 | 182 |
| 245/45ZR-17 | 210 |
| 255/40ZR-17 | 211 |
| 275/40ZR-17 | 229 |
| 315/35ZR-17 | 264 |
| 245/40ZR-18 | 390 |
| 275/35ZR-18 | 420 |
| 255/40ZR-19 | 429 |

**D60A2**

| | |
|---|---|
| 175/70HR-13 | $50 |
| 185/70HR-13 | 55 |
| 185/60HR-14 | 57 |
| 185/70HR-14 | 60 |
| 195/60HR-14 | 60 |
| 195/70HR-14 | 44 |
| 205/60HR-14 | 62 |
| 205/70HR-14 | 65 |
| 185/65HR-15 | 65 |
| 195/60HR-15 | 60 |
| 195/65HR-15 | 69 |
| 205/50HR-15 | 92 |
| 205/60HR-15 | 64 |
| 205/65HR-15 | 74 |
| 215/60HR-15 | 68 |
| 215/65HR-15 | 77 |
| 225/60HR-15 | 71 |
| 205/55HR-16 | 103 |
| 215/60HR-16 | 95 |
| 225/60HR-16 | 97 |

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## MICHELIN

| **XGT H4/V4/Z4 All Season** | |
|---|---|
| 185/60HR-14 | $ 89 |
| 195/60HR-14 | 100 |
| 195/60VR-14 | 114 |
| 215/60HR-14 | 118 |
| 195/60HR-15 | 103 |
| 205/55VR-15 | 155 |
| 205/60HR-15 | 120 |
| 205/60VR-15 | 129 |
| 215/60HR-15 | 115 |
| 215/60VR-15 | 131 |
| 215/65HR-15 | 109 |
| 225/60VR-15 | 133 |
| 225/70HR-15 | 121 |
| 225/50VR-16 | 171 |
| 225/55ZR-16 | 149 |
| 225/60HR-16 | 120 |
| 225/60VR-16 | 136 |
| 245/50VR-16 | 187 |
| 255/50VR-16 | 197 |

| **XGT4 All Season** | |
|---|---|
| 175/70-R13 | $59 |
| 185/70-R13 | 66 |
| 175/65-R14 | 64 |
| 185/65-R14 | 70 |
| 185/70-R-14 | 67 |
| 185/70-R-14* | 76 |
| 195/60-R14 | 76 |
| 195/70-R14 | 73 |
| 205/70-R-14 | 77 |
| 195/60-R-15 | 77 |
| 205/70-R-15 | 83 |

| **MXT4 All Season** | |
|---|---|
| 175/70HR-14 | $63 |
| 185/70HR-14 | 71 |

| **EPX+** | |
|---|---|
| 185/60HR-14 | $64 |

| **LX1** | |
|---|---|
| 175/70 R-13 | $56 |
| 185/65 R-14 | 84 |
| 185/70 R-14 | 69 |
| 215/70 R-15 | 72 |

| **MXV3** | |
|---|---|
| 195/60HR-14 | $102 |
| 195/60HR-15 | 94 |
| 195/60VR-15 | 125 |
| 205/60VR-15 | 104 |

| **MXV4 All Season** | |
|---|---|
| 175/70HR-13 | $74 |
| 185/70HR-13 | 82 |
| 175/70HR-14 | 84 |
| 185/60HR-14 | 92 |
| 185/65HR-14 | 95 |
| 185/70HR-14 | 89 |
| 195/60HR-14 | 95 |
| 195/60VR-14 | 100 |
| 195/65HR-14 | 103 |
| 195/65VR-14 | 115 |
| 195/70HR-14 | 93 |
| 205/60HR-14 | 105 |
| 205/70HR-14 | 99 |
| 185/65HR-15 | 101 |
| 185/65VR-15 | 112 |
| 195/60HR-15 | 100 |
| 195/65HR-15 | 113 |
| 195/65VR-15 | 118 |
| 205/60HR-15 | 112 |
| 205/60VR-15 | 123 |
| 205/65HR-15 | 117 |
| 205/65VR-15 | 129 |
| 205/70VR-15 | 106 |
| 215/60HR-15 | 115 |
| 215/65HR-15 | 123 |
| 215/70VR-15 | 117 |
| 225/60VR-16 | 128 |

| **TRX** | |
|---|---|
| 165/70HR-365 | $94 |
| 185/65HR-365 | 99 |
| 180/65 R-365 | 110 |
| 185/65HR-365 | 99 |
| 190/65HR-390 | 119 |
| 200/60VR-365 | 110 |
| 200/60VR-390 | 142 |
| 220/55VR-390 | 117 |
| 220/55HR-390 | 125 |
| 220/55VR-390 | 182 |
| 240/55VR-390 | 176 |
| 240/45ZR-415 | 179 |
| 240/55VR-415 | 186 |
| 280/45VR-415 | 190 |

| **MXM** | |
|---|---|
| 225/55ZR-15 | $225 |
| 225/55ZR-16 | 243 |
| 225/60VR-16 | 209 |
| 235/60ZR-16 | 233 |

| **MXV** | |
|---|---|
| 175/70HR-13 | $78 |
| 185/70HR-13 | 89 |
| 205/60HR-13 | 97 |
| 185/60HR-14 | 89 |
| 185/65HR-14 | 97 |
| 185/70HR-14 | 80 |
| 195/60HR-14 | 105 |
| 195/60VR-14 | 109 |
| 195/65HR-14 | 105 |
| 195/65VR-14 | 120 |
| 195/70HR-14 | 98 |
| 205/55VR-14 | 123 |
| 205/60HR-14 | 108 |
| 205/60VR-14 | 119 |
| 205/70HR-14 | 95 |
| 185/65HR-15 | 109 |
| 185/65VR-15 | 109 |
| 195/55VR-15 | 126 |
| 195/60HR-15 | 105 |
| 195/60VR-15 | 118 |
| 195/65HR-15 | 121 |
| 195/65VR-15 | 127 |
| 195/65ZR-15 | 141 |
| 205/55VR-15 | 128 |
| 205/60HR-15 | 112 |
| 205/60VR-15 | 121 |
| 205/60ZR-15 | 139 |
| 205/65HR-15 | 128 |
| 205/65VR-15 | 131 |

| **MXV2** | |
|---|---|
| 175/70HR-13 | $ 81 |
| 185/60HR-14 | 88 |
| 195/60HR-14 | 94 |
| 195/60VR-14 | 109 |
| 185/55VR-15 | 113 |
| 185/65HR-15 | 109 |
| 195/50VR-15 | 130 |
| 195/55VR-15 | 125 |
| 195/60HR-15 | 110 |
| 195/60VR-15 | 127 |
| 195/65HR-15 | 118 |
| 195/65VR-15 | 124 |
| 205/60HR-15 | 115 |
| 205/60VR-15 | 125 |
| 215/50VR-15 | 155 |
| 205/55VR-16 | 138 |

| **XGTV/Z** | |
|---|---|
| 195/60VR-14 | $96 |
| 205/50VR-15 | 141 |
| 205/60VR-15 | 125 |
| 215/60VR-15 | 128 |
| 215/65VR-15 | CALL |
| 225/60VR-15 | 135 |
| 205/55VR-16 | 158 |
| 225/50VR-16 | 142 |
| 245/45VR-16 | 192 |
| 245/50VR-16 | 169 |
| 255/50VR-16 | 185 |
| 275/40ZR-17 | 249 |
| 335/35ZR-17 | 290 |

| **XGT Plus** | |
|---|---|
| 255/45ZR-16 | 210 |
| 315/40ZR-16 | 267 |
| 245/40ZR-17 | 225 |
| 275/40ZR-17 | 247 |
| 315/35ZR-17 | 265 |

| **MXX** | |
|---|---|
| 205/50ZR-15 | $213 |
| 205/50ZR15$^{\text{MXX2}}$ | 206 |
| 205/45ZR-16 | 236 |
| 205/50ZR-16 | 220 |
| 205/55ZR-16 | 222 |
| 225/45ZR-16 | 245 |
| 225/50ZR-16 | 242 |
| 245/45ZR-16 | 271 |
| 255/50ZR-16 | 260 |
| 205/50ZR-17$^{\text{MXX3}}$ | 240 |
| 215/50ZR-17 | 270 |
| 225/45ZR-17$^{\text{MXX3}}$ | 270 |
| 235/45ZR-17$^{\text{MXX2}}$ | 276 |
| 255/40ZR-17$^{\text{MXX2}}$ | 296 |
| 255/40ZR-17$^{\text{MXX3}}$ | 296 |
| 265/40ZR-17$^{\text{MXX2}}$ | 293 |
| 245/40ZR-18$^{\text{MXX3}}$ | 311 |
| 285/35ZR-18$^{\text{MXX3}}$ | 365 |

| **MXL** | |
|---|---|
| 175/70TR-13 | $65 |
| 185/70TR-13 | 70 |
| 175/70TR-14 | 66 |
| 185/70TR-14 | 70 |
| 195/70TR-14 | 70 |
| 205/70TR-14R | 86 |
| 205/70TR-14 | 80 |
| 185/65TR-15 | 75 |
| 195/65TR-15 | 79 |

## ORIGINAL EQUIPMENT TIRES ORIGINAL EQUIPMENT TIRES ORIGINAL EQUIPMENT TIRES ORIGINAL EQUIPMENT TIRES

### YOKOHAMA TIRES

| **A022** | |
|---|---|
| 195/55VR-15 | $124 |
| 205/55VR-15 | 129 |
| 225/50VR-15 | 149 |
| 225/50VR-16 | 166 |
| 225/55VR-16 | 206 |

| **AX321** | |
|---|---|
| 205/70VR-14 | $81 |
| 185/70VR-15 | 79 |
| 205/70VR-15 | 85 |
| 215/70VR-15 | 89 |

| **A323** | |
|---|---|
| 185/60HR-14 | $74 |
| 195/60HR-14 | 83 |

| **A341** | |
|---|---|
| 195/60HR-15 | $91 |
| P195/60HR-15 | 91 |
| P195/65HR-15 | 86 |

| **A344** | |
|---|---|
| 195/65HR-14 | $83 |
| 195/65HR-15 | 87 |
| P195/65HR-15 | 87 |
| P205/65HR-15 | 96 |
| P205/65VR-15 | 103 |

| **A404** | |
|---|---|
| 205/60HR-14 | $87 |

| **A406** | |
|---|---|
| 185/60HR-14 | $74 |
| 195/60HR-14 | 83 |
| 205/60VR-14 | 99 |

| **S380** | |
|---|---|
| 225/55TR-16 | $173 |

| **S480** | |
|---|---|
| 205/80HR-15 | $135 |
| 205/50HR-15 | 169 |

| **Y221** | |
|---|---|
| P185/60HR-14 | $49 |

| **Y350** | |
|---|---|
| P145/80R-13 | $35 |
| 145SR-13 | 35 |
| 155SR-13 | 36 |

| **Y351** | |
|---|---|
| 175/70SR-13 | $44 |

| **Y356** | |
|---|---|
| 185R-14(6) | $47 |
| 185R-14(8) | 53 |
| LT195/75R-14(8) | 56 |

| **Y360** | |
|---|---|
| P155/80R-13** | $33 |
| P165/80R-13** | 36 |
| P175/80R-13** | 38 |
| P185/80R-13** | 40 |
| P185/75R-14** | 43 |
| P195/75R-14** | 45 |
| P205/75R-14* | 49 |
| P205/75R-14** | 47 |
| P215/75R-14** | 48 |
| P225/75R-14** | 50 |
| P205/75R-15** | 48 |
| P215/75R-15** | 49 |
| P225/75R-15** | 51 |
| P235/75R-15** | 54 |

| **Y361** | |
|---|---|
| 165/70SR-12 | $42 |

| **Y362** | |
|---|---|
| 145SR-12 | $33 |

| **Y370** | |
|---|---|
| P235/75R-15XL* | 57 |
| P235/75R-15 | 51 |

| **Y371** | |
|---|---|
| P155/80R-13** | $42 |
| P165/80R-13** | 47 |
| P185/80R-13** | 52 |

| **Y372** | |
|---|---|
| 145SR-12 | $32 |
| 165/70SR-12 | 39 |
| 155/80 -13 | 35 |
| 155SR-13 | 36 |
| 175/70SR-13 | 43 |
| 185/70R-13 | 45 |
| 175/70HR-14 | 53 |
| 185/65SR-14 | 63 |
| 185/70HR-14 | 63 |
| 185/70SR-14 | 48 |
| 185/75SR-14 | 38 |
| 205/70SR-14 | 54 |

| **Y376** | |
|---|---|
| 175/65HR-14 | $70 |
| 185/60HR-14 | 63 |
| P185/60HR-14 | 75 |
| 195/60HR-14 | 83 |
| P195/60HR-14 | 83 |
| 195/65HR-14 | 87 |
| 195/65HR-15 | 87 |
| 205/60HR-15 | 95 |
| 205/65HR-15 | 92 |
| 205/65VR-15 | 97 |

| **Y382 (60/65)** | |
|---|---|
| 205/60HR-14 | $86 |
| 195/60HR-15 | 84 |
| 205/60HR-15 | 91 |

| **Y382 (75/80)** | |
|---|---|
| 155SR-13 | $36 |
| 155/80R-13 | 36 |
| 165/80R-13 | 39 |
| 175/70R-13 | 43 |
| 175/70SR-13 | 43 |
| 185/70R-13 | 46 |
| 185/70SR-14 | 48 |
| 185/70R-14 | 48 |
| 195/70R-14 | 51 |
| 195/75R-14 | 48 |
| 195/75R-14* | 54 |
| 205/70R-14 | 54 |
| 205/75R-14 | 50 |
| 205/75R-14 | 57 |

| **Y383** | |
|---|---|
| P165/80R-13 | $39 |

| **Y384** | |
|---|---|
| 165SR-13 | $40 |
| 185/70SR-13 | 47 |
| 185/70SR-14 | 50 |

| **Y387** | |
|---|---|
| 165SR-13 | $40 |

| **Y388** | |
|---|---|
| P195/65R-15 | $85 |
| P215/65R-15 | 102 |

| **Y811** | |
|---|---|
| 215/75R-15 | $66 |
| 225/75R-15 | 73 |
| 225/75R-15* | 83 |
| 235/75R-15 | 79 |
| 235/75R-15* | 91 |

| **Y814** | |
|---|---|
| P235/75R-15 | $84 |

| **Y826** | |
|---|---|
| 215/75R-14 | $70 |
| 215/75R-14* | 81 |

| **Y823** | |
|---|---|
| P225/75R-15 | $81 |

### BRIDGESTONE

| **108V** | |
|---|---|
| P145/80 R-12 | $37 |
| 155 SR-13 | 42 |
| 165 SR-13 | 48 |

| **116V** | |
|---|---|
| 175/70SR-13‡ | $53 |
| P185/70 R-13 | 56 |
| 205/70SR-14† | 64 |

| **G03/G04** | |
|---|---|
| P195/60 R-14 | $85 |
| P195/65 R-15 | 90 |
| 205/60 R-15† | 92 |
| P205/60HR-15 | 92 |

| **RE-010** | |
|---|---|
| 195/55VR-15 | $171 |
| 205/50VR-15 | 156 |
| 225/50VR-15 | 173 |
| 225/50ZR-16 | 192 |

| **RE-85** | |
|---|---|
| 175/65 R-14 | $69 |
| 175/65HR-14 | 85 |

| **RE86 (137V)** | |
|---|---|
| 185/70HR-13 | $66 |
| 185/60HR-14 | 83 |
| P195/60 R-14 | 69 |
| 205/60HR-14 | 91 |
| 195/60HR-15† | 88 |
| P205/60 R-15† | 92 |
| P215/60 R-15† | 99 |

| **RE-87** | |
|---|---|
| 195/60HR-14 | $84 |
| 205/60VR-14 | 135 |

| **RE-88** | |
|---|---|
| 185/60HR-14 | $82 |
| P185/60R-14 | 82 |
| P195/60HR-14 | 86 |
| 195/65HR-14 | 88 |
| 195/60VR-15 | 130 |
| P195/60HR-15 | 87 |
| 205/60VR-15 | 136 |
| P205/65R-15 | 82 |
| P205/65VR-15 | 144 |
| 215/60VR-15 | 142 |

| **RE-91** | |
|---|---|
| 225/50VR-16 | $192 |

| **RE-92** | |
|---|---|
| 165/65 R-13 | $47 |
| 175/60 R-14 | 66 |
| 175/65HR-14 | 74 |
| 185/60HR-14 | 72 |
| 185/60VR-14 | 90 |
| 185/70HR-14 | 61 |
| 195/60HR-15 | 75 |
| 205/55VR-15 | 125 |
| 205/60HR-15 | 78 |
| 205/60VR-15 | 108 |
| 205/65HR-15 | 79 |

| **RE-93** | |
|---|---|
| P205/50VR-15 | $156 |
| 215/50VR-15 | 164 |
| 225/55VR-16 | 193 |

| **RE-95** | |
|---|---|
| 225/50VR-16 | $190 |

| **S134** | |
|---|---|
| P145/80SR-13 | $42 |

| **S135** | |
|---|---|
| 175/70SR-13 | $50 |

| **S226** | |
|---|---|
| 175/70SR-13 | $50 |

| **S237** | |
|---|---|
| 185/70HR-13 | $55 |

| **S321** | |
|---|---|
| P215/65SR-15 | $107 |

| **S324** | |
|---|---|
| P205/65SR-15 | $94 |

| **S325** | |
|---|---|
| P185/60HR-14 | $73 |

| **S381** | |
|---|---|
| 155 R-13 | $42 |

| **S405** | |
|---|---|
| 145 SR-12 | $37 |
| P155/80SR-13 | 45 |
| 155 SR-13 | 43 |
| 165 SR-13 | 53 |
| P165/65SR-13 | 49 |
| 175/70SR-13 | 50 |
| P175/70SR-13 | 53 |
| 185/70SR-13 | 58 |
| 185/70SR-14 | 62 |
| P185/65SR-14 | 73 |
| P205/70SR-15 | 69 |
| P205/70SR-15* | 79 |

| **401V** | |
|---|---|
| P145/80R-12 | $42 |
| P165/70R-12 | 47 |
| P145/80R-13 | 44 |
| P155/80R-13 | 45 |
| P165/70R-13 | 49 |
| P175/70R-13 | 52 |
| 185/70SR-13* | 64 |

| **S402** | |
|---|---|
| P155/80SR-13** | $37 |
| 155 SR-13 | 33 |
| 175/70SR-13 | 38 |
| 185/70SR-13 | 44 |
| 185/65SR-14 | 50 |
| 185/70SR-14 | 49 |
| P185/75SR-14 | 47 |
| P185/75SR-14** | 52 |
| 195/70SR-14 | 48 |
| P195/75SR-14 | 50 |
| P195/75SR-14** | 55 |
| P205/70SR-14 | 52 |
| P205/75SR-14 | 49 |
| P205/75SR-14** | 61 |
| P205/75SR-14 | 46 |
| P205/75SR-14* | 58 |
| P195/75SR-15 | 55 |
| P215/75SR-14† | 56 |
| P225/75SR-15** | 65 |
| P235/75SR-15 | 72 |

| **S406** | |
|---|---|
| 175/70HR-13 | $61 |
| 185/70HR-13 | 68 |
| 185/60HR-14 | 86 |
| P185/70HR-14 | 72 |
| 195/60HR-14 | 92 |
| 195/65HR-14 | 95 |
| P195/70HR-14 | 76 |
| 205/60HR-14 | 96 |
| P205/70HR-14 | 81 |
| 225/70HR-14 | 102 |
| 185/65HR-15 | 90 |
| 195/60HR-15 | 93 |
| 195/65HR-15 | 95 |
| 205/60HR-15 | 96 |
| P205/65R-15 | 103 |
| P205/65VR-15 | 112 |
| 215/60HR-15 | 103 |
| P215/65R-15 | 104 |

| **S408/S409** | |
|---|---|
| 155 SR-13 | $35 |
| P155/70R-13 | 39 |
| P175/70SR-13 | 47 |
| P175/70R-14 | 53 |
| P185/70R-14 | 55 |
| 205/75R-14 | 55 |

### DUNLOP OUTPERFORMS

| **D3** | |
|---|---|
| 225/60HR-14† | $86 |

| **D7** | |
|---|---|
| 185/70HR-13 | $54 |

| **D8** | |
|---|---|
| 185/60HR-14 | $75 |
| 215/65HR-15 | 79 |

| **D8M2** | |
|---|---|
| 175/70HR-14 | $77 |
| 185/60HR-14 | 77 |
| 195/60HR-14 | 84 |
| 195/60VR-14 | 106 |
| 205/60VR-15 | 124 |
| 235/60ZR-16 | 153 |

| **D31J** | |
|---|---|
| 185/60HR-14 | $62 |
| 195/65HR-14 | 75 |
| 195/60HR-15 | 67 |
| 195/65HR-15 | 76 |
| 205/60HR-15 | 71 |
| P215/60HR-15 | 88 |
| P215/65HR-15 | 82 |

| **D40** | |
|---|---|
| 215/60ZR-15 | $126 |
| 225/60ZR-15 | 126 |
| 205/55ZR-16 | 152 |
| 225/50ZR-16 | 162 |
| 225/55ZR-16 | 180 |
| 245/45ZR-16 | 176 |

| **D60A2** | |
|---|---|
| P195/70R-14 | $41 |
| 205/60HR-14 | 58 |

| **D60J** | |
|---|---|
| 205/60HR-15 | $72 |

| **D62M** | |
|---|---|
| 195/65HR-15 | $76 |

| **D8050** | |
|---|---|
| 225/50VR-16 | $219 |

| **D87J** | |
|---|---|
| 195/60HR-14 | $84 |

| **D87M** | |
|---|---|
| 185/60HR-14 | $76 |
| 205/60VR-14 | 82 |
| 215/50VR-15 | 95 |
| P215/60HR-15 | 89 |
| P215/65VR-15 | 91 |

| **D89** | |
|---|---|
| P185/60HR-14 | $63 |

| **GT Qualifier** | |
|---|---|
| P215/65HR-15* | $62 |
| 235/60HR-15* | 69 |

| **SP4** | |
|---|---|
| 155 SR-12 | $30 |
| 145 SR-13 | 31 |
| 155 SR-13 | 34 |
| 165/70SR-13 | 36 |
| 165 SR-13 | 34 |
| 175/70SR-13 | 38 |
| 185/70SR-13 | 40 |
| 165 SR-14 | 38 |
| 175 SR-14 | 40 |
| 175/70SR-14 | 41 |
| 185 SR-14 | 43 |
| 185/70SR-14 | 45 |
| 195/70SR-14 | 45 |
| 165 SR-15 | 40 |

| **SP4N Star** | |
|---|---|
| P145/80 -13 | $34 |
| 155 SR-13 | 37 |
| 175/70SR-13 | 46 |
| P195/75R-14 | 55 |
| 205/70SR-14† | 56 |

| **SP6 A/S** | |
|---|---|
| 195/65HR-15 | $80 |

| **SPRS M&S** | |
|---|---|
| 155 SR-13 | $36 |
| P155/80R-13 | 37 |
| P175/70R-13 | 46 |
| 165 SR-13 | 40 |
| 185/70SR-13 | 48 |
| 185/70SR-14 | 50 |
| P205/75R-14 | 57 |

| **SP7** | |
|---|---|
| 155SR-13 | $36 |

| **SP20 A/S** | |
|---|---|
| 155 SR-13 | $35 |
| P185/70SR-14 | 58 |
| P195/65SR-14 | 58 |
| P195/75R-14 | 57 |
| P205/75SR-14 | 60 |

| **SP23J** | |
|---|---|
| P165/70R-13 | $40 |
| P175/70R-13 | 41 |

| **SP32J A/S** | |
|---|---|
| 155 SR-13 | $36 |
| 165 SR-13 | 39 |
| 175/70SR-13 | 43 |
| P185/70 R-13 | 48 |
| P175/70 R-14 | 47 |
| P185/70 R-14 | 50 |
| P195/75SR-14 | 54 |
| P205/70 R-14 | 56 |
| P205/75 R-14 | 57 |
| P205/75 R-14* | 60 |
| P205/75 R-14† | 57 |

## Continental

| **CZ99 (Aqua Contact)** | |
|---|---|
| 225/50ZR-16 | $311 |
| 235/45ZR-17 | 374 |
| 265/40ZR-17 | 447 |

| **CS/CT/21** | |
|---|---|
| 145SR-12 | $36 |
| 155SR-12 | 36 |
| 145SR-13 | 36 |
| 155TR-13 | 38 |
| 165TR-13 | 46 |
| 165/70TR-13 | 44 |
| 175/70TR-13 | 50 |
| 185/70TR-13 | 55 |
| 165TR-14 | 49 |
| 175TR-14 | 53 |
| 175/70TR-14 | 52 |
| 185CR-14 | 68 |
| 185SR-14 | 56 |
| 185/70TR-14 | 60 |
| 195/70TR-14 | 63 |
| 165SR-15 | 52 |
| 185/65TR-15 | 67 |

| **CH/CV/CZ/51** | |
|---|---|
| 175/70HR-13 | $68 |
| 185/70HR-13 | 72 |
| 205/60HR-13 | 82 |
| 175/70HR-14 | 72 |
| 185/60HR-14 | 77 |
| 185/65HR-14 | 78 |
| 185/70HR-14 | 74 |
| 195/60HR-14 | 86 |
| 195/60VR-14 | 106 |
| 195/65HR-14 | 84 |
| 195/65VR-14 | 104 |
| 195/70HR-14 | 79 |
| 205/60VR-14 | 116 |
| 205/70HR-14 | 82 |
| 185/55VR-15 | 114 |
| 185/65HR-15 | 81 |
| 185/65VR-15 | 100 |
| 195/50VR-15 | 129 |
| 195/55VR-15 | 120 |
| 195/60HR-15 | 93 |
| 195/60VR-15 | 114 |
| 195/65ZR-15 | 86 |
| 195/65VR-15 | 106 |
| 205/50VR-15 | 136 |
| 205/55VR-15 | 129 |
| 205/60HR-15 | 97 |
| 205/60VR-15 | 120 |
| 205/65HR-15 | 89 |
| 205/65VR-15 | 110 |
| 215/65ZR-15 | 82 |
| 225/60VR-15 | 125 |

| **CZ91** | |
|---|---|
| 205/60VR-15 | $150 |
| 215/60ZR-15 | 135 |
| 225/50ZR-15 | 177 |
| 205/55ZR-16 | 166 |
| 225/45ZR-16 | 196 |
| 225/50ZR-16 | 184 |
| 245/45ZR-16 | 206 |
| 235/45ZR-17 | 217 |

| **CV90** | |
|---|---|
| 195/60VR-14 | $115 |
| 205/50VR-15 | 132 |
| 195/65VR-15 | 128 |
| 205/65VR-15 | 129 |

| **CH90** | |
|---|---|
| 185/60HR-14 | $82 |

| **CZ90** | |
|---|---|
| 235/50ZR-16 | $82 |

| **CZ99** | |
|---|---|
| 225/60VR-15 | $252 |
| 225/50ZR-16 | 311 |
| 245/45ZR-16 | 315 |
| 235/45ZR-17 | 374 |
| 265/40ZR-17 | 447 |

| **CT24** | |
|---|---|
| 185/70TR-13 | $82 |
| 185/70TR-14 | 82 |
| 195/70TR-14 | 82 |

| **CS24** | |
|---|---|
| 155/SR-13 | $82 |
| 165/SR-13 | 82 |

## FALKEN

| **FK06U** | |
|---|---|
| 185/60HR-13 | $45 |
| 205/60HR-13 | 52 |
| 185/60HR-14 | 47 |
| 195/60HR-14 | 50 |
| 205/60Hr-14 | 55 |
| 225/60HR-14 | 60 |
| 195/60HR-15 | 53 |
| 205/60HR-15 | 58 |
| 215/60HR-15 | 64 |
| 225/60VR-15 | 75 |
| 225/60VR-16 | 80 |

| **FK07U** | |
|---|---|
| 175/70HR-13 | $38 |
| 185/70HR-13 | 43 |
| 185/70HR-14 | 45 |
| 195/70HR-14 | 48 |
| 205/70HR-14 | 53 |

| **FK05G** | |
|---|---|
| 195/50HR-15 | $73 |
| 195/50VR-15 | 84 |
| 205/50VR-15 | 96 |
| 225/50VR-15 | 115 |
| 205/50VR-16 | 110 |
| 205/55VR-16 | 117 |
| 225/50VR-16 | 119 |
| 225/50ZR-16 | 136 |
| 245/45ZR-16 | 145 |
| 245/50ZR-16 | 138 |
| 255/50ZR-16 | 144 |
| 215/45ZR-17 | 172 |
| 235/45ZR-17 | 184 |

## TOYO

| **U1** | |
|---|---|
| 205/55ZR-15 | $140 |
| 195/50ZR-15 | 107 |
| 205/50ZR-15 | 127 |
| 225/50ZR-15 | 143 |
| 205/55ZR-16 | 150 |
| 215/55ZR-16 | 159 |
| 225/55ZR-16 | 168 |
| 225/50ZR-16 | 153 |
| 245/50ZR-16 | 162 |
| 255/50ZR-16 | 169 |
| 245/45ZR-16 | 163 |
| 275/40ZR-17 | 215 |
| 315/35ZR-17 | 258 |

| **Z1 All Season** | |
|---|---|
| 195/50ZR-15 | $103 |
| 205/50ZR-15 | 122 |
| 225/50ZR-15 | 137 |
| 205/55ZR-16 | 150 |
| 225/50ZR-16 | 153 |
| 245/50ZR-16 | 162 |
| 255/50ZR-16 | 169 |
| 275/40ZR-17 | 209 |

| **600F1** | |
|---|---|
| 225/60ZR-15 | $105 |
| 205/55ZR-15 | 136 |
| 195/50ZR-15 | 105 |
| 205/50ZR-15 | 124 |
| 225/50ZR-16 | 150 |
| 205/50ZR-16 | 136 |
| 225/50ZR-16 | 153 |
| 225/45ZR-16 | 151 |
| 245/45ZR-16 | 163 |
| 215/45ZR-17 | 156 |
| 235/45ZR-17 | 166 |
| 255/40ZR-17 | 175 |
| 265/40ZR-17 | 183 |

## LIGHT TRUCK TIRES LIGHT TRUCK TIRES LIGHT TRUCK TIRES

### BFGoodrich

| **Radial All Terrain** | |
|---|---|
| LT27x 8.5R-14 | $81 |
| LT30x 9.5R-15 | 100 |
| LT31x10.5 R-15 | 107 |
| LT32x11.5 R-15 | 117 |
| LT33x 9.5R-15 | 116 |
| LT33x12.5 R-15 | 123 |
| LT35x12.5 R-15 | 136 |
| LT215/75 R-15 | 91 |
| LT235/75 R-15 | 101 |
| LT225/75 R-16 | 113 |
| LT245/75 R-16 | 133 |
| LT265/75 R-16 | 141 |
| LT285/75 R-16 | 156 |
| LT235/85 R-16 | 117 |
| LT31x10.5 R-16.5 | 115 |
| LT33x12.5 R-16.5 | 131 |
| LT35x12.5 R-16.5 | 151 |

| **Radial Mud T/A** | |
|---|---|
| LT30x 9.5R-15 | $105 |
| LT33x 9.5R-15 | 121 |
| LT31x10.5R-15 | 113 |
| LT32x11.5R-15 | 121 |
| LT33x12.5R-15 | 132 |
| LT35x12.5R-15 | 145 |
| LT215/75 R-15 | 96 |
| LT235/75 R-15 | 106 |
| LT225/75 R-15 | 119 |
| LT31x10.5R-16.5 | 121 |
| LT33x12.5R-16.5 | 136 |
| LT35x12.5R-16.5 | 155 |
| LT245/75 R-16 | 140 |
| LT265/75 R-16 | 149 |
| LT285/75 R-16 | 164 |
| LT235/75 R-16 | 124 |
| LT255/75 R-16 | 126 |

### YOKOHAMA TIRES

| **Y811 Super Digger IV** | |
|---|---|
| 215/75 R-15 | $66 |
| 225/75 R-15 | 73 |
| 225/75 R-15* | 83 |
| 235/75 R-15 | 79 |
| 235/75 R-15* | 91 |
| LT215/75R-15* | 81 |
| LT235/75R-15* | 88 |
| LT215/85R-16(8)† | 94 |
| LT215/85R-16(10) | 98 |
| LT235/85R-16(8)† | 100 |
| LT235/85R-16(10) | 105 |
| 750 R-16† | 101 |

| **Y812 Mud Digger** | |
|---|---|
| LT30x9.5 R-15* | $91 |
| LT31x10.5R-15* | 101 |
| LT31x11.5R-15* | 108 |
| LT33x12.5R-15* | 117 |
| LT35x12.5R-15 | 127 |

| **Y814 Super Digger V** | |
|---|---|
| LT30x9.5 R-15* | $84 |
| LT31x10.5R-15* | 94 |
| LT31x11.5R-15* | 100 |
| LT33x12.5R-15* | 108 |
| LT235/75 R-15* | 81 |
| LT235/85 R-16(8)* | 91 |
| LT215/85 R-16* | 86 |

| **Y826 Super Digger** | |
|---|---|
| LT27x8.5 R-14* | $75 |
| LT30x9.5 R-15* | 89 |
| LT31x10.5R-15* | 99 |
| LT31x11.5R-15* | 107 |
| LT33x12.5R-15* | 115 |
| 33x12.5R-16.5(6)* | 121 |
| 33x12.5R-16.5(8)* | 127 |

### BRIDGESTONE

| **682 Dueler HT** | |
|---|---|
| P195/75S-14* | $60 |
| P205/75S-14* | 63 |
| P195/75S-15* | 65 |
| P205/75S-15* | 66 |
| P215/75S-15* | 69 |
| P225/75S-15* | 71 |
| P235/75S-15* | 74 |
| LT30x9.5 S-15* | 81 |
| LT31x10.5 S-15* | 91 |
| LT31x11.5 S-15* | 96 |
| LT33x12.5 S-15* | 104 |
| LT215/75S-15* | 74 |
| LT235/75S-15* | 80 |
| LT225/75S-16* | 93 |
| LT265/75S-16* | 102 |
| LT215/85S-16 | 98 |
| LT235/85S-16 | 106 |

| **691 DuelerAT** | |
|---|---|
| 27x8.5 R-14* | $74 |
| 30x9.5 R-15* | 89 |
| 31x10.5 R-15* | 98 |
| 32x11.5 R-1* | 104 |
| 33x12.5 R-15* | 113 |
| LT215/75R-1* | 80 |
| LT235/75R-15* | 87 |
| LT265/75R-16* | 110 |
| 31x10.5 R-16.* | 104 |
| 33x12.5 R-16.5* | 118 |

| **672 Dueler MT** | |
|---|---|
| 30x 9.5 R-15 | $96 |
| 31x10.5 R-15* | 106 |
| 32x11.5 R-15* | 114 |
| 33x12.5 R-1* | 121 |
| LT215/75R-15* | 87 |
| LT235/75R-15 | 94 |
| LT225/75R-16* | 101 |
| LT235/85R-16 | 121 |
| LT245/75R-1 | 120 |
| LT265/75R-16* | 119 |
| LT285/75R-16* | 122 |

### DUNLOP OUTPERFORMS

| **SPQ T.G. 20** | |
|---|---|
| P215/75-15† | $75 |
| P225/75-15† | 78 |

| **Gran Tek T.G. 25N** | |
|---|---|
| 31X10.5-15 | $105 |

| **Gran Tek T.G** | |
|---|---|
| 31x10.5-15† | $105 |

| **Radial Mud Rover**** | |
|---|---|
| LT235/75R-15C | $96 |
| LT255/85R-16D | 124 |
| 30x9.5 R-15C | 98 |
| 31x10.50 R-15C | 109 |
| 33x12.50 R-15C | 125 |
| 33x12.50 R-16.5D | 141 |

| **Radial Rover AP** | |
|---|---|
| LT235/75R-15D | $90 |
| 8 R-16.5D | 91 |

| **Radial Rover HLT** | |
|---|---|
| LT7.5 R-16D | $96 |
| LT225/75R-16D | 94 |
| LT215/85R-16D | 90 |
| 235/85 R-16E | 96 |
| 9.50-16.5D | 108 |
| 8.75-16.5D | 97 |

| **Radial Rover AT** | |
|---|---|
| 7.50 R-16D | $99 |
| LT215/85-R16D | 89 |
| LT225/75-16D | 91 |
| LT235/85 R-16E | 95 |
| LT245/75-R16E | 107 |
| 8.75-16.5D | 95 |
| 9.50 R-16.5D | 107 |

| **Radial Rover R/T** | |
|---|---|
| 7.50 R-16.0D | $105 |
| LT215/85R-16D | 99 |
| LT235/85R-16E | 110 |
| 8.75 R-16.5D | 105 |
| 9.50 R-16.5D | 115 |
| 33x12.5 R-16.5D | 148 |

| **SP Radial Series** | |
|---|---|
| 185-14C | $76 |
| 185-14D | 77 |

## TIRE SPECIALS

| | | |
|---|---|---|
| 175/70SR-13 | Michelin LX1 | $56 |
| 185/60HR-13 | Yokohama 352 | 45 |
| 175/70HR-14 | Michelin MXT4 | 63 |
| 185/60HR-14 | Pirelli P600 | 75 |
| 185/60HR-14 | Goodyear Eagle GT | 56 |
| 185/60HR-14 | Goodyear NCT | 75 |
| 185/60HR-14 | Yokohama Y221 | 49 |
| 185/60HR-14 | Yokohama 376 | 63 |
| 185/70HR-14 | Michelin MXT4 | 71 |
| 185/70SR-14 | Michelin LX1 | 69 |
| 185/75R-14 | Yokohama 372 | 38 |
| 195/60HR-14 | Pirelli P600 | 83 |
| 195/60HR-14 | Bridgestone 137V(RE86) | 69 |
| 195/60HR-14 | NCT | 79 |
| 195/60HR-14 | Goodyear NCT | 79 |
| 195/65SR-14 | Bridgestone S408 | 55 |
| 195/70HR-14 | Dunlop D60A2 | 44 |
| 195/70VR-14 | Yokohama 202 | 64 |
| 205/60HR-14 | Pirelli P600 | 90 |
| 185/60HR-15 | Goodyear GT4 | 87 |
| 195/50VR-15 | Fulda Y2000 | 75 |
| 195/50HR-15 | General XP2000 | 65 |
| 195/65HR-15 | Goodyear GA | 89 |
| 205/55VR-15 | Goodyear NCT | 95 |
| 205/60VR-15 | Michelin MXV3 | 104 |
| 205/65HR-15 | Goodyear GA | 63 |
| 205/65HR-15 | Dunlop D80V4 | 64 |
| 205/65VR-15 | Goodyear Invicta GA | 85 |
| 205/65HR-15 | Bridgestone RE92 | 79 |
| 205/65VR-15 | Firestone FTX | 79 |
| 205/65VR-15 | Yokohama 202 | 69 |
| 215/60VR-15 | Goodyear GA | 91 |
| 215/60VR-15 | Yokohama 352 | 59 |
| 215/60VR-15 | Goodyear VR60 | 108 |
| 215/65VR-15 | Pirelli P6 | 85 |
| 225/50VR-15 | Goodyear VR50 | 109 |
| 225/75R-15 | Bridgestone 610V | 69 |
| 235/75R-15 | Bridgestone G682 | 59 |
| 205/55ZR-16 | Yokohama AVS. INT. | 147 |
| 225/60ZR-16 | Goodyear GSD | 167 |
| 225/50ZR-16 | Yokohama AVS. INT. | 145 |
| 225/55ZR-16 | Michelin XGTZ4 | 140 |
| 225/55ZR-16 | Pirelli P600 | 129 |

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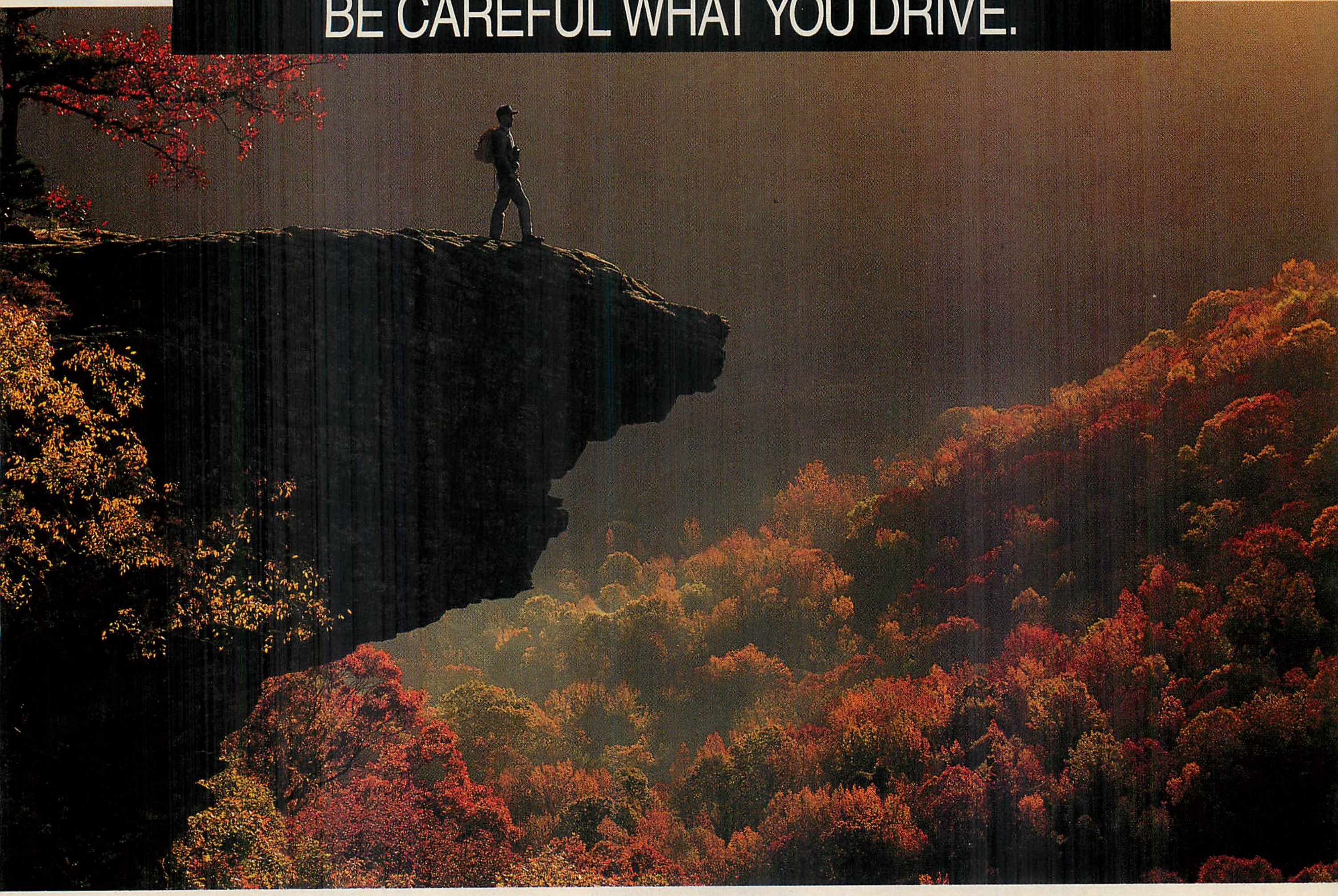

You're going to need a lot more. More interior room. More comfort. More versatility. A powerful 4.0 liter V-6. And, of course, a 4x4 system that lets you shift to 4WD High at the touch of a button. You'll need the one that's first in its class. Explorer. Don't settle for anything less.

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*Tread Lightly* when you drive off-road.

*Have you driven a Ford...lately?*

## FIND YOURSELF IN AN EXPLORER.

# MOTOR TREND'S

RUN-FLAT
CALLAWAY SUPERNATURAL

# GALA CORVETTE SALUTE

The Corvette celebrates its 40th birthday this year. Even more remarkable is the fact that over a million of the plastic playthings have been sold since 1953. Born a skinny-tired, six-cylinder, automatic-transmission-only refugee from the show circuit, the Corvette has become the Dick Clark of the auto world—perpetually youthful, oblivious to its advancing years.

It seems only yesterday that Chevrolet's precocious two-seater was struggling through puberty while introducing fuel injection, independent rear suspension, and four-wheel disc brakes to faithful followers. Then, in the late '60s, Chevrolet engineers took a break while the stylists slipped the Corvette into more flamboyant attire. The peaked fenders, Coke-bottle contours, and flying-buttress-roofline embellishments were toned down in the revolutionary '84 model when the Corvette resumed its role as a technological pack horse. During the past decade in the current guise, the Corvette's been showered with one engineering upgrade after another, from ABS to Z-rated tires, with a computerized key fob thrown in for good measure.

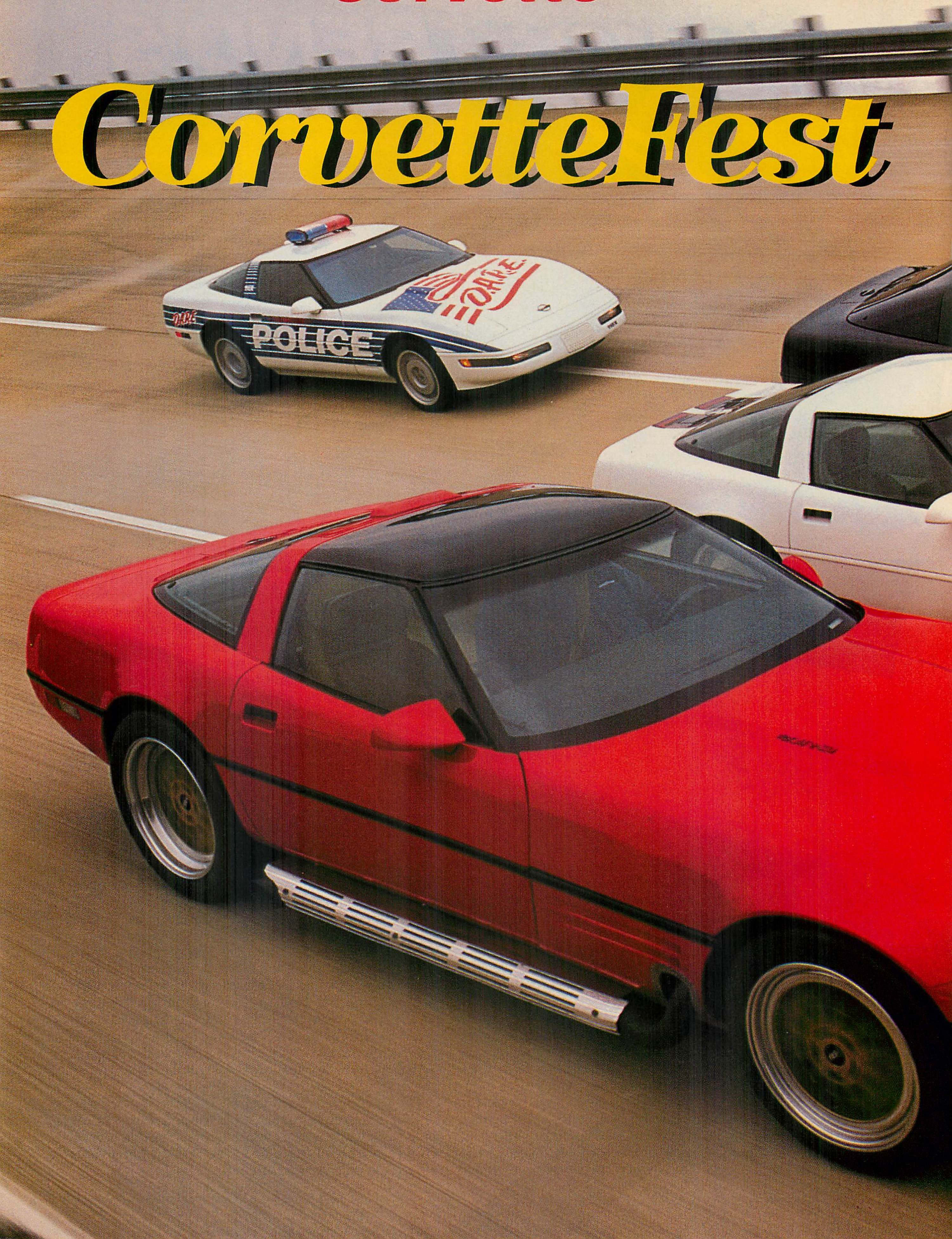
The Corvette's distant future may be hazy, but we don't intend to let that cloud the birthday party we've planned. Any car that lasts this long and has delivered such an abundance of pleasure deserves a fete of grand proportions. So this month, we've decked the cover and splashed our inside pages with a rousing cavalcade of Corvettes.

In the Ohio saga that follows, *Motor Trend* mustered a special collection of modified Corvettes to test their mettle. Befitting the Corvette's special status as America's most distinguished two-seater, we even contrived a police escort. In no way did the presence of an enforcement unit restrict our entry into the felony zone during top-speed testing.

Elsewhere in this issue, you'll find a road test of the hottest model currently available from a Chevrolet assembly line—the '93 405-horsepower ZR-1 Corvette, along with the upgunned LT1-powered coupe. Reeves Callaway may have missed the call to Ohio, but that didn't get him off the hook: You'll find a test of his latest CL-1 SuperNatural Corvette in our special section. To investigate the Corvette's origins and how it survived and prospered, we drove a pristine '53 model, then traced the marque's history through five decades.

The Corvette is no stranger to *Motor Trend* readers for the simple reason that Corvettes are to car magazines what sex is to Madonna. In other words, this is purposely one of those wild celebrations where too much is just enough.

# CorvetteFest


D.A.R.E.
POLICE

# A 200-MPH TOAST TO 40 YEARS OF FUN WITH FIBERGLASS

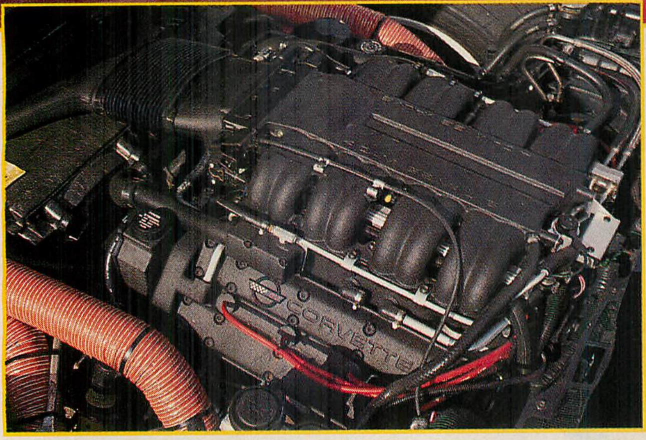
by Don Sherman

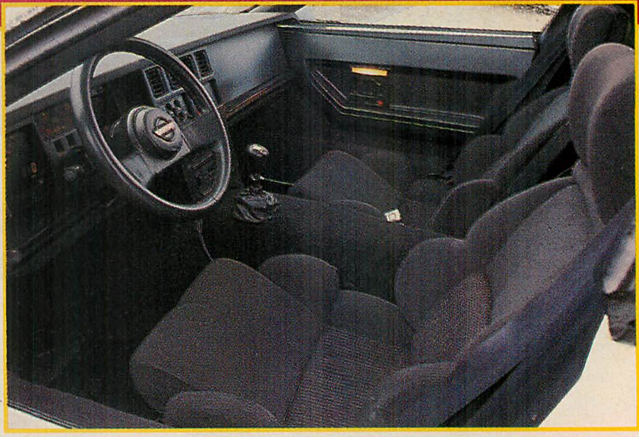
PHOTOGRAPHY BY RICK GRAVES

Our invitation didn't mince words: Build the hottest street-legal Corvette you can muster, and bring it to Ohio for a birthday celebration of epic proportions. The enticement went out to every major Corvette tuner in the country—the Callaway factory in Connecticut, Lingenfelter of Indiana, Greenwood of Florida, and Guldstrand in California—plus a few lesser-known speed and handling merchants. A proposition was also dispatched to the Corvette development group in hopes of coaxing a prototype or two from its lair.

The only hard and fast rule was there wouldn't be any hard and fast rules to inhibit the festivities. As usual, we intended to study every facet of performance during a visit to the Ohio Transportation Research Center. The street-legal criterion was given double emphasis: We mapped out a cross-country drive route on secondary roads to evaluate real-world behavior, and we contracted the services of the Automotive Testing Laboratories to scrutinize what came out the exhaust pipes. For dessert, we reserved a day at the Mid-Ohio Sports Car Course to check each Corvette's speed and spirit on a challenging 2.25-mile, 14-turn racetrack.

Initial responses boiled over with enthusiasm. A few tuners asked for multiple entry forms. The factory exceeded our expectations by rolling out two of the





fastest Corvettes ever concocted: Snake Skinner and Conan ("Top Secret Chevys!" May '92). Then a few invitees had second thoughts. Our strictly voluntary emissions test frightened one away. Callaway claimed his plate was full introducing Bridgestone's Run-flat tire system. Greenwood complained that both his supercharged and his normally aspirated engineering programs were far behind schedule. Lingenfelter missed the celebration when an engine that worked perfectly on the dyno became cantankerous in the car.

Four hardy Corvette party animals finally showed up at TRC before dawn on a chilly Sunday in November. John Heinricy and Jim Minneker—two GM engineers (see sidebar)—shipped their experimental toys via a huge semi-trailer transport. Doug Rippie, a notorious Corvette racer from Plymouth, Minnesota, trailered in a customer car, complete with the customer, Steve Wait of Brookings, South Dakota. Mike McKenzie and Daniel Baker of Guldstrand Engineering won a merit badge for driving their entry 2300 miles to Ohio from Culver City, California.

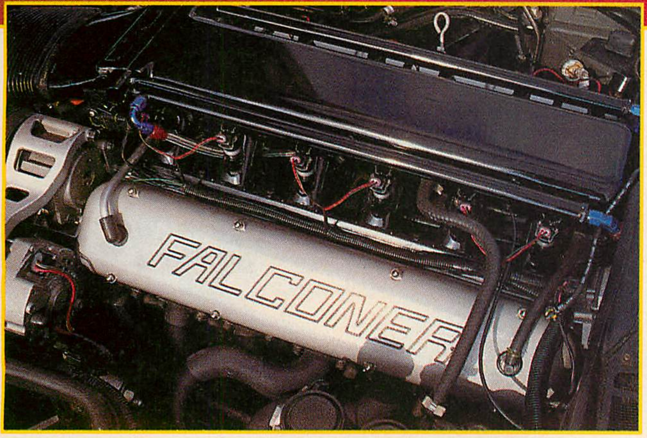
The first order of business was a group photo session on TRC's 7.5-mile, steeply banked oval. The highly tuned engines coughed and spit when asked to perform such a mundane task so early on a frigid morning, but the cameraman won't wait when there's a portrait to shoot. Three of the four Corvettes jockeyed into position, but Snake Skinner refused the call. After several minutes of consulting service manuals to decipher fault codes, the problem was finally diagnosed: an empty gas tank. This was our omen of calamities to come.

**Chevy's Viper-skinner combines 440 screaming horses with a 2850-pound curb weight. Corvette platform engineers promise to transfer their findings to future production models.**

The feeble bright spot overhead fought a losing battle penetrating a leaden blanket of clouds. The crew from Minnesota shrugged it off as a mild winter day, but the thin-blooded California contingent suffered agonies. While participants huddled over open engine bays to conserve body heat and assess the competition, conversations bounced back and forth between compression ratios and suspension settings.

Snake Skinner has a slightly disheveled look that belies its true personality. This is a pure power-to-weight-ratio exercise, and niceties like glossy paint just aren't essential. The rough-looking hood is molded in Kevlar, and the optically wavy rear hatch is plexiglass to save a few precious pounds. Wherever possible, aluminum stands in for steel and magnesium replaces aluminum. Weighty iron brake rotors have been replaced by carbon-fiber components. Air-conditioning, power seat adjusters, a cockpit console, and the spare wheel and tire are banned to help the bottom line at the scales. Even the brake lights have been pared from four to two to further the cause.

Under the hood, the LT5 V-8 wears a menacing coat of matte-black paint. Hotter cams, the elimination of secondary throttle plates, ported intake passages, and an unrestricted air cleaner aid induction. The exhaust is dumped to atmosphere via fat black pipes fitted with mufflers, but no catalytic converters. With an estimated 440 horsepower and a curb weight of 2850 pounds, Snake Skinner's power-to-weight ratio is an incredible 31 percent better than the '92 Corvette ZR-1's. When this merciless hunter is about, reptiles of the Cobra



**Conan, the 44 Magnum of Corvettes, has enough torque to toast the tires in third gear. The 9.9-liter Falconer V-12 engine is all aluminum.**

and Viper variety don't stand a chance.

The long-nose Corvette on the premises exemplifies a different approach to performance. Except for shiny BBS wheels and side-pipe shields, the red Chevrolet called Conan looks positively discreet. But the instant its stretched hood is swung open, jaws drop and eyes twinkle with delight.

Conan is the P-51 of land-bound crafts with an engine bay amply stocked with V-12 horsepower. Operating under the theory that anything worth doing is worth overdoing, this experimental Corvette boasts not only extra cylinders but also the biggest bore and stroke dimensions of the test. We're talking 601 cubic inches, a ground-pounding 9.9 liters, and nearly enough torque to bump-start the earth.

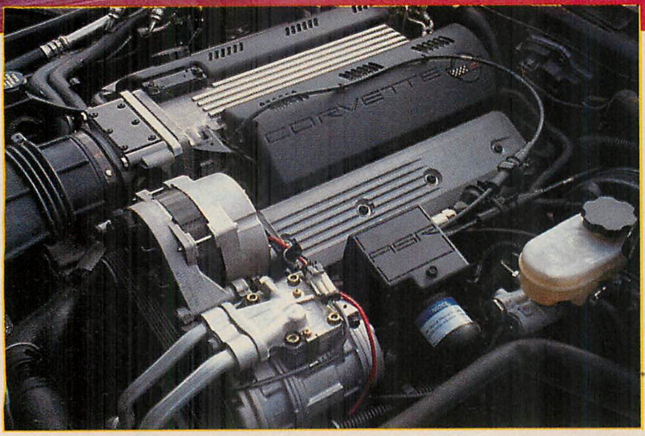
SportsFab of Wixom, Michigan, crafted this creature, and that firm's ace fabricator and boss, Tommy Sapp, is on hand to tend the monster. By extending the frame rails 8 inches, room was cleared for what amounts to one and a half Chevrolet small-block V-8s. Manufactured by Ryan Falconer Industries, using aluminum for the block and heads, the fuel-injected V-12 weighs no more than an iron-block V-8. With a curb weight of 3440 pounds and an estimated 580 horsepower on tap, Conan has a power-to-weight ratio significantly better than the Snake Skinner's. The only machine on hand with this much torque wore a Freightliner badge on its radiator.

Dick Guldstrand's SS is a Corvette of a different stripe. In some respects, it's a throwback to the muscle-car era: regulation skunk-streak graphics, SS badges outlined in classic chrome, a zippy 4.09:1 axle ratio, and a can of Wynn's Friction Proofing (courtesy of Guldstrand's sponsor) in the oil sump. Underneath, there's a suspension package distilled from years of Corvette racing experience: a lower ride height, urethane (instead of rubber) bushings, spherical rod ends for the anti-roll bars, and special rear-suspension toe-control links. Wheels and tires are standard '93 Corvette equipment.

We were amazed that the Guldstrand team had the nerve to attend this speedfest with a pure-stock engine under their hood. Except for the aforementioned change to the final drive ratio and a stainless steel, low-restriction Borla exhaust system worth a handful of ponies, the SS' powertrain is exactly as it left the Bowling Green assembly line.

It's not that Guldstrand Engineering has forgotten how to tune Chevy engines for extra power. Remember, this enterprise resides in Southern California, where anti-tampering laws are especially strict. As a result, Guldstrand has become an upstanding member of the green movement. A special ZR-1 he has under development burns compressed natural gas and produces an exhaust purportedly as sweet as baby's breath. A test of that Corvette—dubbed the GS90—will have to wait, but in the meantime, Guldstrand was anxious to demonstrate the SS' prowess in handling tests and its social responsibility in the emissions lab.

Compared to the dove-white SS, the fourth Corvette in this covey looked like evil on wheels: low to the ground, fat of tire, and shrouded behind tinted glass and a foreboding shade of green



paint. The Joker couldn't ask for a more villainous ride for terrorizing Gotham City. In spite of the fearsome appearance, this car was presented by two pillars of congeniality, owner Steve Wait and constructor Doug Rippie.

The DR383, a name consisting of Rippie's initials and his Corvette's piston displacement, is extensively modified stem to stern. The engine is bored and stroked. The cylinder heads are ported and fitted with larger intake and exhaust valves. A Crane camshaft activates roller lifters and roller rocker arms. Downstream of the stock catalyst, the exhaust is dumped into a set of Borla stainless steel pipes and mufflers. Fuel is delivered by a high-capacity pump through oversize injectors commanded by a reprogrammed engine-control computer. The rest of the driveline is stock hardware except for a heavy-duty clutch.

Like Guldstrand, Rippie has fiddled with Corvette suspensions for years on the racetrack. Every rubber bushing is replaced by a urethane component more resistant to unwanted deflections. The factory plastic leaf springs are replaced by conventional coil springs that mount to stock Bilstein adjustable shock absorbers. Several advantages are claimed—a lower ride height, slightly softer ride rates, and a small increase in suspension travel. Large-diameter anti-roll bars balance handling without inflicting excessive harshness. A rear suspension geometry change reduces the amount of steering caused by the wheels' up and down motion. Braking capacity is enhanced with three-piston front calipers and larger rotors front and rear. Goodyear GS-C rubber in ZR-1 sizes is mounted to Dymag cast magnesium wheels.

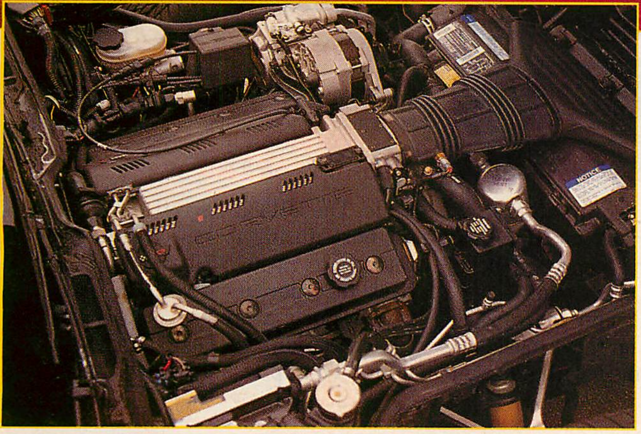
**Guldstrand's clean machine demonstrates that substantial performance gains are possible without disabling the Corvette's emissions controls.**

During the introductory photo session, we kicked tires and bench-raced to a faretheewell. The main event—top-speed testing (see sidebar)—wasn't scheduled until late afternoon, so we spent the midday conducting acceleration, braking, and handling tests.

While measuring adhesion limits on TRC's vehicle dynamics pad, trouble erupted. The DR383 cornered at a remarkable 0.99 g but also generated a billowing cloud of white smoke. A pit stop revealed that the fault was nothing more serious than oil spraying out the dip-stick tube. The thundering Conan, which sounds like a squadron of piston aircraft overhead, followed the DR383's lead to the letter: 0.99 g on the pad, white smoke from under the car. The lightweight Snake Skinner skated around the pad like Kristi Yamaguchi on a tether. It didn't bat an eye registering 1.04 g, the best score of the day and better than anything you'll find listed in *MT*'s Road Test Review.

Disaster struck when we circled TRC's skidpad in the Guldstrand SS. After recording a mediocre 0.88 g lap, driver Ron Grable stopped to report a fluctuating oil pressure reading. An ominous tapping from the bowels of the engine prompted us to dispatch the SS to a service bay for damage assessment. Meanwhile, back at the pad, testing resumed. The *MT* crew swapped cars back and forth between the slalom course and TRC's long straightaway, where acceleration and braking capabilities were measured.

Conan was a problem child to launch off the line. An indelicate right foot smoked the tires. An uncoordinated left



**Doug Rippie's 383-cubic-inch Corvette tore up the slalom course with its clever coil-spring suspension.**

foot cooked the clutch. By the time Grable's feet were in synch, the spark plugs were fouled, and the engine was spitting and snorting at high rpm. Unfortunately, Tommy Sapp's rolling shop wasn't stocked with hotter replacement plugs, and cleaning the cold ones we had didn't help things.

The Corvettes were parading through our 600-foot slalom course by the numbers. While Guldstrand crew chief Buzz Byczynski dropped the oil pan on the SS, Conan was charging cones with abandon. No overpowered oaf, it zigged and zagged with consummate ease. When the car's tail threatened to drift wide, the slightest extra pressure on the throttle was enough to plant the rear tires and rocket this long-wheelbase Corvette back into line. After a dozen passes to learn its reflexes, we hustled Conan through the cones at a satisfyingly quick 68.3 mph.

Snake Skinner was more temperamental. Unlike Conan, it despised changes of throttle setting and reacted crankily with a tendency to fishtail. A careful hand also was necessary on the steering wheel because this Corvette delivers a near-instantaneous response to every course-correction request. Finally, we bettered Conan's speed by 1 mph, then released Snake Skinner to its handlers for a rear camber adjustment.

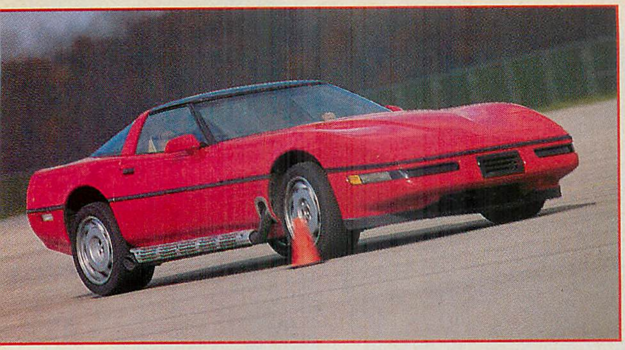
When it returned to the pad to resume slalom testing, Chevrolet Engineering's Vette Lite was better behaved. We dialed in more understeer by switching the selective shock absorbers one notch tighter, a change that clipped a couple tenths off the elapsed time. The best pass corresponded to an average speed of 70.4 mph, a record for Corvettes in *MT* tests.

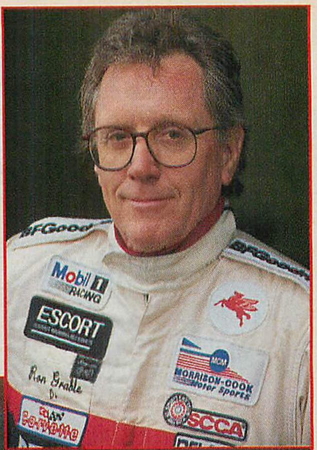
At least until the DR383 stepped up to bat. This machine was a breeze to drive. There was never a hint the tail might drift out of line or that a quick steering or throttle adjustment would upset this car's equilibrium. The DR383's tires were so solidly planted that turning a quicker time was simply a question of minimizing scrub and crowding the cones a bit tighter with each pass. Switching the shocks back a notch from sport to tour helped steering predictability and softened response beneficially. The best pass was 72.1 mph, an all-time slalom-course record.

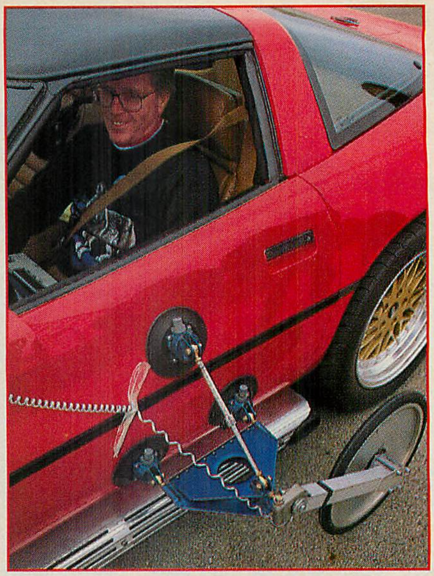
The DR383 couldn't match the Snake Skinner in acceleration, but that didn't stop it from trying. With a best run of 12.5 seconds at 113.3 mph in the quarter mile, owner Steve Wait shouldn't have much trouble holding his own on South Dakota highways.

In *MT* tests, the Dodge Viper slithered 0-60 mph in a quick 4.7 seconds. Snake Skinner easily eclipsed that performance with 3.6-second blast to the same speed. Holding the pedal down for a full quarter mile will zap you to 120.0 mph in a mere 11.7 seconds.

The report from the garage was not uplifting. The Guldstrand SS suffered temporary oil starvation on the skidpad, which failed one connecting rod bearing and scored the mating crankshaft journal. Crew chief Byczynski frantically polished the wounds with emery cloth, while onlookers needled the Guldstrand team for pouring a friction reducing elixir in their crankcase. Factory reps assured us that the Wynn's wasn't the problem. At fault was an oil pickup assembly that was used briefly at the beginning of the '93 model year until tests revealed it could cause precisely the fail-







***MT*** **Editor-at-Large Ron Grable (above and left) pressed the pedals in straightline tests and prodded Conan well past 200-mph on TRC's banked oval.**

ure we had experienced. Tommy Sapp quickly fired up his welder to craft a permanent solution to the problem.

The Guldstrand Corvette's engine was not a picture of health, but it ran well enough to endure emissions tests. We crossed our fingers and tried a few acceleration runs with the wounded SS. Of course, the knock returned, and Buzz had to suffer through the emergency rod-bearing repair procedure all over again.

Our problems didn't end there. Rick Graves, photographer on this project, accidentally slashed a finger with a pocket knife. The DR383 Corvette popped a water hose during top-speed runs necessitating a tow truck. When it was screwed back together, its ignition system was mysteriously dead. New spark plugs for Conan couldn't be found in the state of Ohio. To cap it off, the weather was

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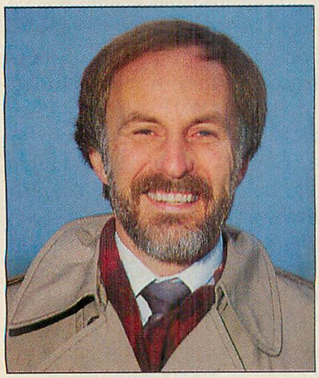
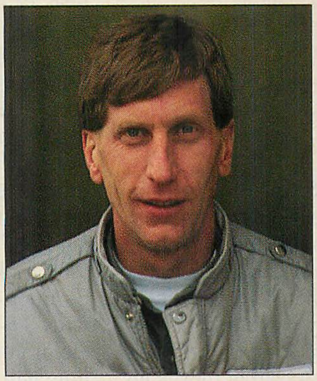


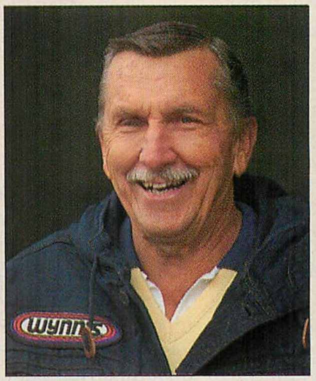
### JOHN HEINRICY

"There's no better way than racing for me to understand how all the systems of a performance sports car work at the limit," says the man most responsible for integrating the Vette's many systems into an operational whole. He began racing only eight years ago, in a rented showroom-stock Citation—winning four of five events, driver's championships in *two* '89 series, and membership on Vette team championships in '88 and '90. He helped break FIA records in the Morrison/Cook Vette in '90.



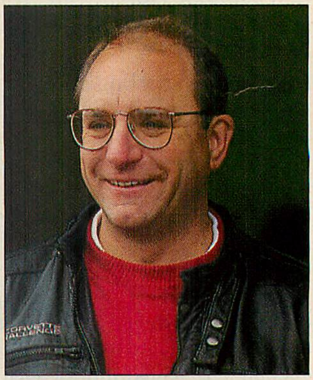
### DOUG RIPPIE

A well-known driver in the '80s, Rippie won seven of nine races in '84, en route to the SCCA Central Division driver's crown. In '86, he stepped out of the car to manage full-time—with great results. His team won the now-defunct Corvette Challenge series in '89, with wins in six of 12 races. In '92, his Dieline team won the World Challenge with firsts in five of eight races, and his chief driver, R. K. Smith, took the driver's crown. Next year, he wants to field Camaros, too.



### DICK GULDSTRAND

Every Corvette buff knows Guldstrand's name—he's been customizing, racing, and winning in Corvettes since there've been Corvettes. He won three consecutive West Coast championships in '63, '64, and '65, was Penske's first driver in '67, and with Penske, won first the Daytona 24-hour and then the Sebring 12-hour. "I'm a product of the '40s hot-rod days. I went to Los Angeles High School, and, of course, you either had to be a candyass or a hot-rodder. I wasn't a football player."



### JIM MINIKER

Miniker has yet to wear an overall champion's crown, but his record shows he's on his way. As a driver on the '92 Bakeracing Corvette World Challenge team, Miniker finished the season in fourth place. He drove when the team won the Mosport 24-hour, the first professional win for the ZR-1. At Brainerd, he won the first (and so far, only) *World Challenge* drag race. He's been road-racing only five years, but his days are pretty hectic: He's powertrain systems manager for GM's Corvette Group.

turning darker by the minute.

Ranks quickly closed, and everyone pitched in to make the best of the situation. We turned our attention to the South Dakota special's exhaust emissions. The good news is its emissions controls were functioning. The bad news is they weren't functioning with utmost efficiency. Compared to the practically stock Guldstrand SS, the DR383 generated approximately five times the amount of unburned hydrocarbons, carbon monoxide, and oxides of nitrogen.

The second day in Ohio became more of an endurance test than a birthday party, so we finished performance runs at TRC and prepared for the cross-country trek to Mid-Ohio scheduled for the following morning. To no one's surprise, the third day dawned with the sky drizzling rain. Nevertheless, we pressed on with the over-the-road evaluations in hopes that the weather would improve.

Luckily, it did. The roads dried up, and nary a Corvette faltered en route. The good folks of Walnut Grove, Ridgeway, and Meeker, Ohio, shot us perplexed looks as our procession of four rumbling Corvettes and phalanx of support units created a momentary rush hour in one small town after another.

The Guldstrand SS made the trek without a whimper in spite of the fact that revs had to be used sparingly to minimize stress on its engine's bearings. Resisting the temptation to dip liberally into the throttle was a chore because this Corvette's numerically high axle ratio makes the powertrain act lively and itching to go. While the straight-line ride feels as pleasant as a stocker, aggressive lane-change maneuvers are noticeably slack-free and extra precise thanks to the suspension modifications. Admittedly, the Guldstrand crew hasn't done much to this car but every modification is, at least, conspicuously cost effective.

Snake Skinner lives at the opposite end of the civility scale. The sounds and vibrations of well-oiled machinery are ever-present. The exhaust is inspirational with the throttle down, but only mildly annoying while cruising. The good news is scalpel-sharp steering, an all-around light-on-its-feet personality, and near-ballistic throttle response. Ride motions are supple enough to suggest that a cross-country jaunt would be a gas in this one-off Corvette. Unfortunately, the harsh reality is that those lacking diplomatic immunity would quickly fall prey to Snake Skinner's accelerative temptations and go directly to jail.

Conan, on the other hand, is such a beguiler that any enforcement officer with a soul could be bribed out of a citation with a glance under its hood. At

## DRIVING TRC'S HIGH-SPEED TRACK

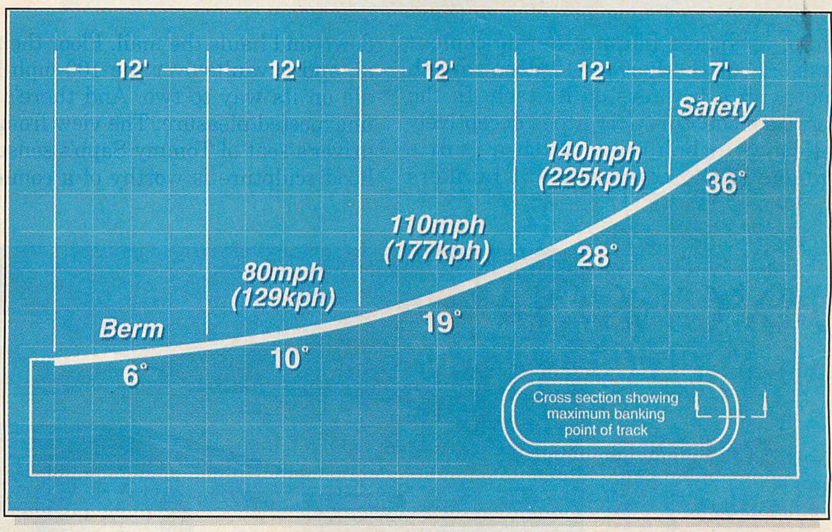
At 200 mph, a vehicle travels the length of a football field every second. To generate speeds in that vicinity, a car needs lots of horsepower, slick aerodynamics, and a special road. No midnight runs on the freeway will do for cars of 200-mph potential.

Transportation Research Center is one of the few facilities in the country with such a road. TRC is a vehicle-testing paradise located in the flat farmlands of middle Ohio. It's best know for it's immense 7.5-mile, high-banked oval, which easily contains 200-mph cars. It's difficult to comprehend the sheer size of this track, but consider that six complete Indianapolis 500 tracks would easily fit in the center of the oval.

On a recent, crisp winter morning we assembled at TRC with this awesome field of Vettes. Conditions were ideal for high-speed testing. With temperatures in the 30s, the engines would be inhaling nice, cold, dense air, and there was no appreciable wind to disturb the cars at speed.

First up was the Rippie Motorsports car. In the 28-degree upper lane of the parabolic banking, 140 mph is the neutral speed (zero side forces). At more than 140 mph, it's better to run above the upper lane, close to the guardrail, to take advantage of the steeper 36-degree banking where neutral speed is 170 mph.

The Rippie car accelerated quickly into fifth gear, and I settled down to enjoy the reworked LT1 engine's struggle to force the Vette through the air. On the east bank, I let the car climb above the upper lane. The guardrail blurred past, less than six feet from my left elbow, providing a shocking speed reference. Time was compressing—things were happening fast. Down off the banking onto the straight, with nothing to do but watch the speedo and compensate as the Vette wandered slightly...180...181...182...approaching the timing traps...speedo straining for 183...traps...whuuump...instant loss of power...fluid all over the windshield...clutch in quickly...long coast to a stop. Diagnosis: burst radiator hose and wet engine electronics.



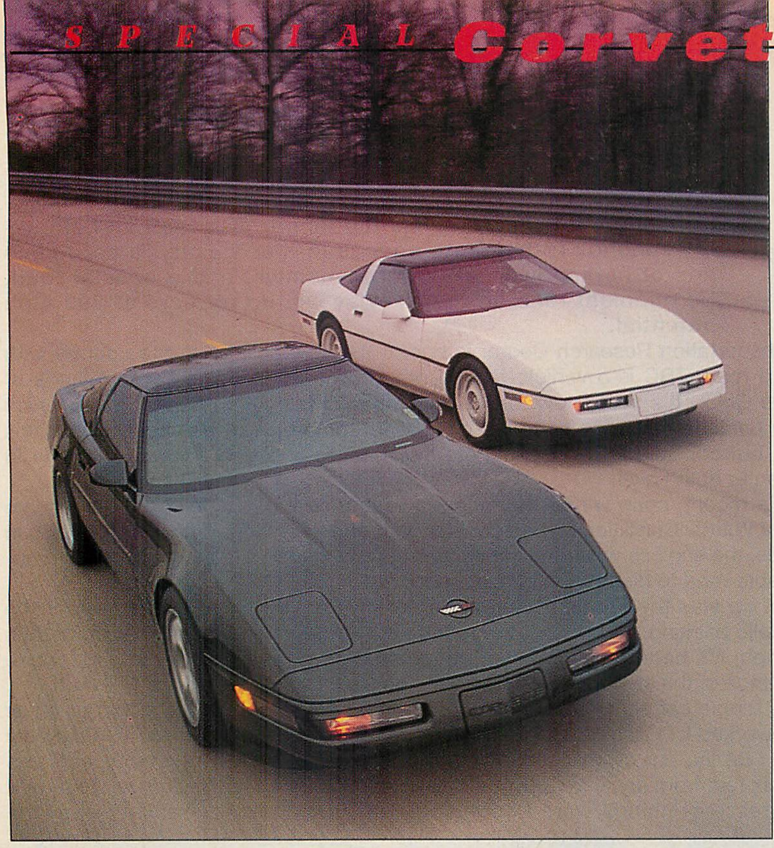
ARROYO DESIGN

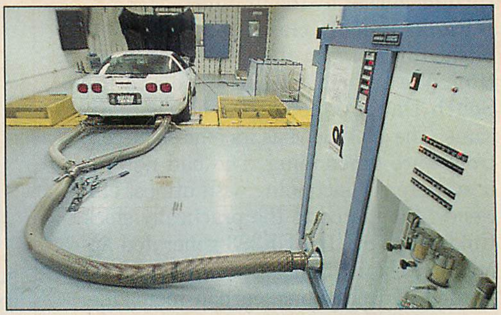
Snake Skinner was all intensity on the big oval. It remained as stable as an aircraft carrier, needing little in the way of steering corrections. In contrast, the lightweight bodywork had all the rigidity of a bowl of Jell-O, jiggling madly at high speeds. The engine produced a lovely racelike note, with much intake air noise and a high-pitched howl from the exhaust. Working up through the gears, the digital speedometer climbed smoothly to 150 mph—then mysteriously began counting down—150, 149, 148, all the way to zero.

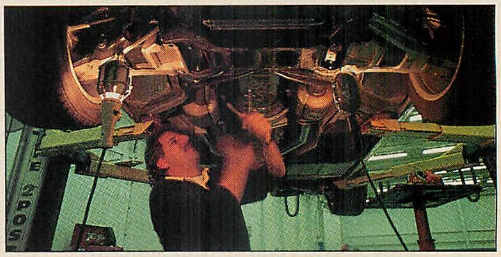
At 7300 rpm in fifth, power and drag reached equilibrium, and all was in harmony. Snake Skinner could go no faster. The radio crackled "188 mph."

All our test Vettes were equipped with six-speeds, but Conan was the only one that had enough engine to pull sixth gear. The massive 8-liter V-12 would accelerate hard enough to pin me in the seat, at any speed. Opening the throttle didn't noticeably alter any activity under the hood, it just increased that breathtaking push in the back. Conan required constant corrections to maintain the desired heading, which used up all my attention. Blasting through the traps, the tach was only reading 4800 rpm, so I thought I wasn't going very fast (the speedometer didn't work), until I heard a shocked voice on the radio: "Wow! Two eleven." I guess there really isn't any substitute for cubic inches.

*—Ron Grable*







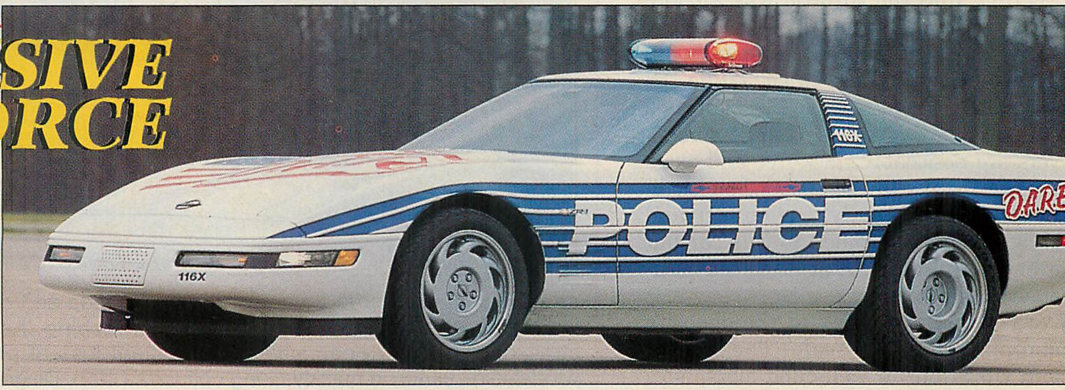
**Automotive Testing Laboratories sniffed hot Corvette exhaust pipes while Guldstrand Engineering's ace wrench, Robert Byczynski, polished crankshaft journals.**

idle, it shakes like an atomic cement mixer, but the lusty V-12 does smooth out with a few revs on its tach. In the cruise mode, this Corvette is deceptively normal in behavior. With a gentle nudge of the accelerator, it hunkers down and hauls the mail. Floor the pedal, and it vaults over the 100-mph hurdle on its way to two. And there's one unexpected pleasure: The view from the driver's seat of Tommy Sapp's sensuous hood sculpture is worthy of a commendation from the Museum of Modern Art.

The DR383 is a prime example of the tremendous untapped potential of the 10-year-old Corvette platform. With modern tires and a few engine and chassis tweaks, a capable aftermarket tuner has wrought

# EXCESSIVE FORCE

## DRIVING THE CORVETTE ZR-1 POLICE CAR



DARE is the national Drug Abuse Resistance Education program founded by the Los Angeles Police Department in September 1983. Hundreds of police departments nationwide now administer local programs designed to teach school children not only why, but how to "Say No to Drugs." Chevrolet created the Corvette ZR-1 police car for loan to police departments as a DARE program attention-getter. And, boy, does it work.

This is the ultimate unmarried enthusiast's prowl car—because you get attention both from Vette groupies and cop groupies. I drove the car, with great care, from *MT*'s Motown nerve center down to TRC for the Vette test: I knew if I got caught speeding in this vehicle, the police would put me *under* the jail. Police never gave me a second glance, but Santa and his eight tiny reindeer couldn't have drawn more attention from civilians. It was almost dangerous. An inattentive driver would look up, see the ZR-1's lightbar in a rearview, and stomp the brakes so hard he'd flat-spot the tires. This astonishment was only exceeded by the look on most faces as the car motored on by.

Under the cool exterior graphics is a box-stock '92 Corvette ZR-1, complete with 375-horsepower 5.7-liter LT5 V-8, six-speed manual gearbox, and cassette/CD player. When a car comes this hot stock, few changes are necessary. The only small modification to the standard interior is a switch panel under the console ashtray cover that controls various flashing light combinations and a couple different siren sounds.

Is Chevy planning to offer a Corvette police package? Officially, no. And except in extremely special cases, most state police or highway patrol agencies couldn't ante up the cash for one, even at a low-bid government price. The Vette would make a wonderful radar-speed-enforcement car because, of course, hot pursuits would be impressively short. Hell, the car has a stunning effect on traffic in normal cruise mode. That effect is then amplified at speed with lights and electronic siren howling, which makes it the perfect demonstrator for police engaged in teaching youngsters the dangers of drugs.

This Corvette police car could be somebody's worst nightmare—and you know who you are.

*—Daniel Charles Ross*

# TECH DATA

## GENERAL

| | DR383 | Guldstrand Super Sport | Snake Skinner | ZR-12 Conan |
|---|---|---|---|---|
| **Tuner** | Doug Rippie Motorsports<br>12832 Highway 55<br>Plymouth, Minn. | Guldstrand Engineering<br>11924 W. Jefferson Blvd.<br>Culver City, Calif. | Corvette Platform<br>Chevrolet Division<br>Warren, Mich. | Corvette Platform<br>Chevrolet Division<br>Warren, Mich. |
| **Price as tested** | $50,000 | $42,000 | $250,000 | $250,000 |
| **Transmission** | 6-speed manual | 6-speed manual | 6-speed manual | 6-speed manual |
| **Axle ratio** | 3.45:1 | 4.09:1 | 3.91:1 | 3.54:1 |
| **Curb weight, lb** | 3450 | 3350 | 2850 | 3440 |
| **Weight distribution, f/r, %** | 51/49 | 52/48 | 52/48 | 54/46 |
| **Weight/power ratio, lb/hp** | 7.7 | 9.9 | 6.5 | 5.9 |

## ENGINE

| | DR383 | Guldstrand Super Sport | Snake Skinner | ZR-12 Conan |
|---|---|---|---|---|
| **Type** | 90-degree V-8, cast iron block, aluminum heads | 90-degree V-8, cast iron block, aluminum heads | 90-degree V-8, aluminum block and heads | 90-degree V-12, aluminum block and heads |
| **Bore x stroke, in./mm** | 4.03 x 3.75/<br>102.4 x 95.2 | 4.00 x 3.48/<br>101.6 x 88.4 | 3.90 x 3.66/<br>99.0 x 93.0 | 4.12 x 3.75/<br>104.8 x 95.2 |
| **Displacement, ci/cc** | 383/6271 | 350/5733 | 350/5727 | 601/9855 |
| **Est. horsepower, hp @ rpm** | 450 @ 6000 | 340 @ 5200 | 440 @ 6500 | 580 @ 5200 |
| **Est. torque, lb-ft @ rpm** | 435 @ 4500 | 320 @ 3600 | 400 @ 5200 | 704 @ 4500 |

## CHASSIS

| | DR383 | Guldstrand Super Sport | Snake Skinner | ZR-12 Conan |
|---|---|---|---|---|
| **Suspension, front** | Unequal-length control arms, coil springs, anti-roll bar | Unequal-length control arms, composite leaf spring, anti-roll bar | Unequal-length control arms, composite leaf spring, anti-roll bar | Unequal-length control arms, composite leaf spring, anti-roll bar |
| **Suspension, rear** | Multilink, coil springs, anti-roll bar | Multilink, composite leaf spring, anti-roll bar | Multilink, composite leaf spring, anti-roll bar | Multilink, composite leaf spring, anti-roll bar |
| **Brakes, type/dia., front, in.** | Vented discs/13.0 | Vented discs/12.0 | Vented carbon-fiber discs/13.0 | Vented discs/13.0 |
| **Brakes, type/dia., rear, in.** | Vented discs/12.0 | Vented discs/12.0 | Vented carbon-fiber discs/12.0 | Vented discs/12.0 |
| **Wheel size, f/r, in.** | 17 x 9.5/17 x 11.0 | 17 x 8.5/17 x 9.5 | 17 x 9.5/17 x 11.0 | 18 x 9.5/18 x 12.0 |
| **Material** | Dymag magnesium | Stock aluminum | Dymag magnesium | BBS modular |
| **Tire size, f/r** | 275/40ZR17/<br>315/35ZR17 | 255/45ZR17/<br>285/40ZR17 | 275/40ZR17/<br>315/35ZR17 | 275/40ZR18/<br>315/40ZR18 |
| **Mfr. and model** | Goodyear Eagle GS-CS | Goodyear Eagle GS-CS | Goodyear Eagle GS-CS | Goodyear Eagle GS-CS |

## PERFORMANCE

| | DR383 | Guldstrand Super Sport | Snake Skinner | ZR-12 Conan |
|---|---|---|---|---|
| **Acceleration, sec** | | | (Acceleration numbers produced on drag slicks) | |
| **0–30 mph,** | 1.7 | 2.1 | 1.4 | 2.0 |
| **0–40 mph,** | 2.3 | 3.0 | 2.2 | 2.6 |
| **0–50 mph,** | 3.1 | 4.0 | 2.7 | 3.3 |
| **0–60 mph,** | 4.1 | 5.3 | 3.6 | 3.9 |
| **0–70 mph,** | 5.2 | 7.0 | 4.4 | 4.6 |
| **0–80 mph,** | 6.7 | 8.6 | 5.3 | 5.5 |
| **0–90 mph,** | 8.1 | 10.5 | 6.5 | 6.5 |
| **0–100 mph,** | 9.7 | 12.7 | 7.8 | 7.4 |
| **Standing quarter mile, sec/mph** | 12.5/113.3 | 13.6/104.9 | 11.7/120.0 | 11.6/133.0 |
| **Braking, 60–0, ft** | 116 | 111 | 111 | 113 |
| **Handling, lateral acceleration, g** | 0.99 | 0.93 | 1.04 | 0.99 |
| **Speed through 600-ft slalom, mph** | 72.1 | 69.0 | 70.4 | 68.3 |
| **Top speed, mph** | 182 | 161 | 188 | 211 |

phenomenal performance improvements. The ride is every bit as pleasant as a stock Corvette's, and factory engineers definitely could learn something from this car's supremely confident handling. The only real shortcoming of the DR383 package is a boisterous soundtrack: valvetrain clatter from under the hood and an unruly exhaust rumble. (Sustained full-throttle blasts on the big oval may have damaged both the Borla mufflers and the DR383's catalytic converter.)

Our 100-mile Ohio backroad excursion ended at the racetrack, where we were greeted by the onset of a steady rain that lasted through a long lunch hour and well into the afternoon photo session. With no hope of accomplishing anything meaningful on the track, we literally scrubbed the hot laps at Mid-Ohio and set our sights on a brighter day.

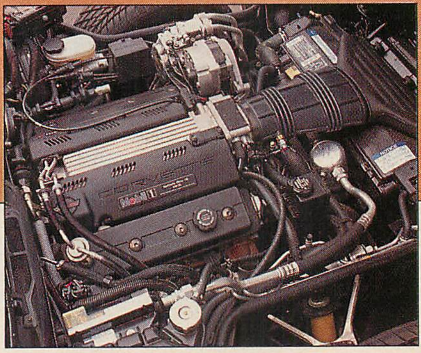
Conan and Guldstrand's SS Corvette both returned to home base for repairs under their own power. Tommy Sapp installed a mighty McLeod dual-disc clutch in Conan and delivered it to Milan Dragway in Michigan for retesting. There, we snapped a driveshaft, performed a hasty repair, and recorded some remarkable acceleration figures all in the same afternoon. Using a half-throttle, second-gear start to minimize wheelspin, Conan bolted to 60 mph in 3.9 seconds and blistered the quarter mile in 11.6 seconds at 133.0 mph.

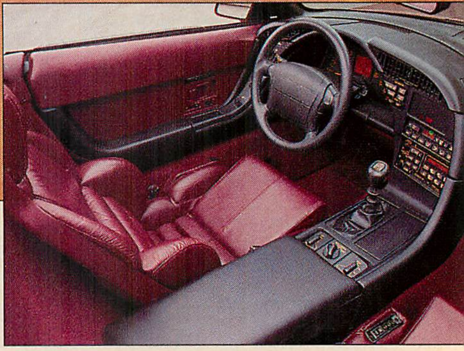
Simultaneously, another West Coast test crew put an SS through it spaces. A fresh engine under the hood brought its performance portfolio up to snuff quite nicely. Every test result we recorded represented a solid gain over a stock Corvette, proving Guldstrand's theory that it's not necessary to sacrifice a clean exhaust in search of extra speed and handling.

There isn't a moral to this story. Nevertheless, the Corvette's 40th birthday is a great excuse for a high performance party and the year's still young. So watch this space for Corvette II, The Reckoning.

### WICKEDLY FAST AND SURPRISINGLY SUMPTUOUS

by Ron Grable





**ROAD TEST UPDATE**

# '93 CORVETTES

We picked up our '93 Corvette test car at the height of a heavy winter storm that was in the process of dropping on Los Angeles nearly three inches of rain in 24 hours: barely enough to water the plants in Seattle, but cause for ark building in the City of the Angels.

Intersections were beginning to look like the Mississippi River, and freeways were turning into parking lots. Plowing through these tidal crossroads and slaloming around the many stalled cars, it was easy to appreciate the sophistication of this '93 Vette. Electronic traction control stood ready to choke off stability-robbing wheelspin on the treacherous streets, while ABS hovered in the electronic ether, poised to deal with any brake pedal overexuberance. The result was a stable, confidence-inspiring platform that dealt easily with such atrocious conditions, while mere mortals in lesser cars spun out and wildly slithered about looking for traction.

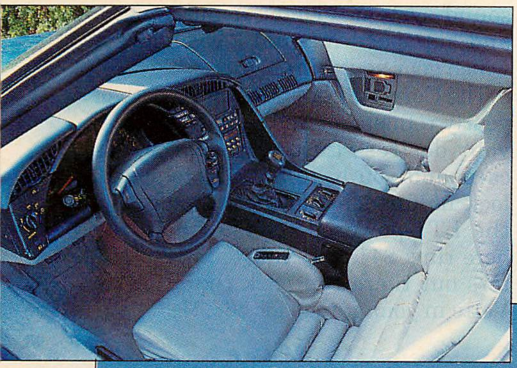
Model year '93 marks the 40th anniversary of Corvette production, and to commemorate that fact, Chevrolet is offering a 40th-anniversary-edition Corvette. The 40th-anniversary appearance option is available across the product line, but comes only in ruby-red exterior and interior, with color-keyed wheel centers, bright emblems on the hood, deck and side-gills, and special headrest embroidery. Buyers who don't want the 40th-anniversary option but order leather seats will nonetheless get the headrest embroidery.

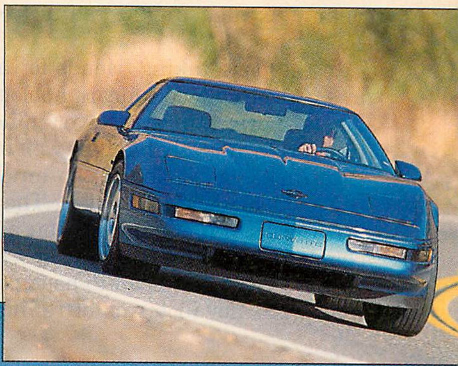
The 300-horsepower, small-block LT1 engine was first seen in '92. It was an instant success, offering what could turn out to be the ultimate (read last) pushrod-operated V-8 from GM. For '93, it has even more torque (up 10 pound-feet to 340 at 3600 rpm) by virtue of reduced intake-valve duration and slight flow improvements in the intake plumbing. Considerable energy also was focused on reducing valvetrain noise in the '93 pushrod motor. First, the cam profiles were "softened," engineerese for reducing the closing velocity of the exhaust valve by 20 percent to lessen seating impact. Second, the magnesium rocker covers used on the '92 engine were replaced with a composite cover, gaskets, and bolts, plus large rubber isolators under the rocker cover bolts.

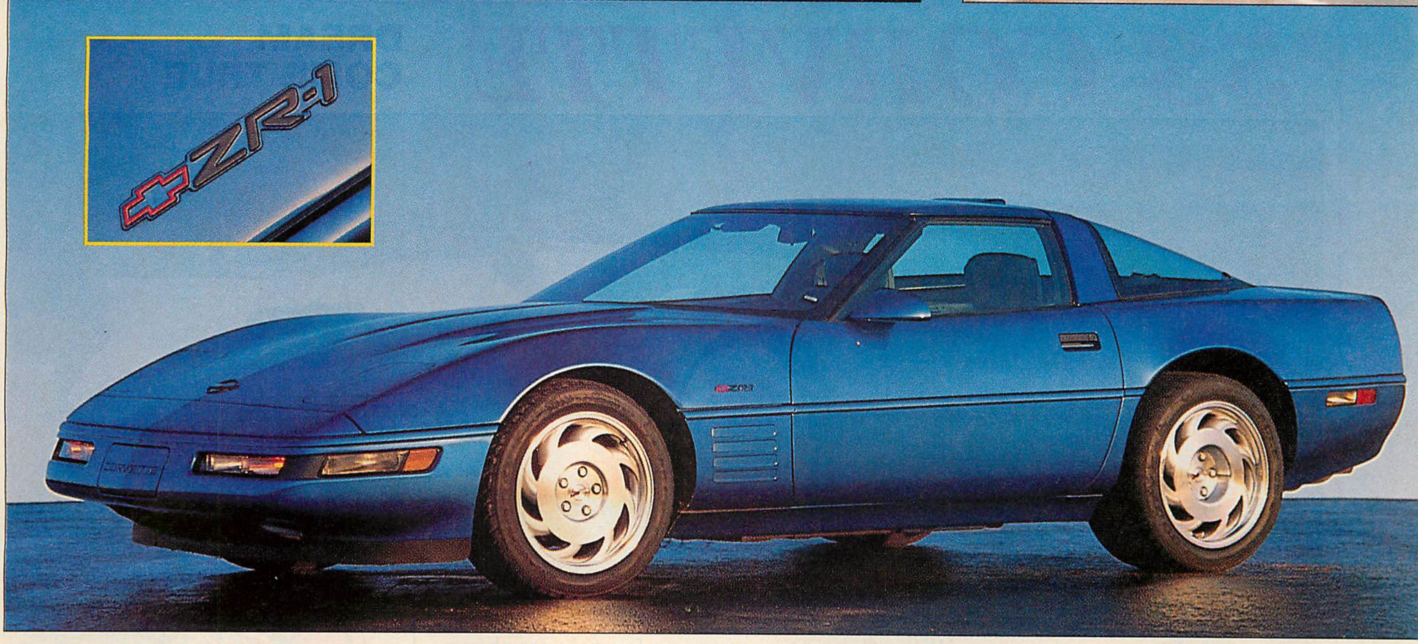
Probably no engine builder in the world does pushrod V-8s as well as GM, and this second-generation small-block engine is an excellent showcase for that technology. It makes 50 horsepower more than the L98 it replaces, weighs less, and is more fuel-efficient. No breakthrough technologies are responsible for the dramatic improvement, just basic hot-rodding tricks with intake and exhaust flow, more compression, etc. However, modern electronics and an innovative reverse-flow cooling system allowed the engineers to have their cake and eat it, too—more power *and* improved fuel mileage.

When the ZR-1 was introduced in '90, the engineers and marketeers desperately wanted to bring it to market with 400

PHOTOGRAPHY BY RICK GRAVES







horsepower. They felt 400 was a magic number, but they weren't quite able to reach it and remain consistent with all other requirements (no gas-guzzler, emissions, etc.). We now know they haven't been resting on their laurels because, for '93, Group Lotus and MerCruiser have reached and exceeded the original goal for the ZR-1. The LT5 produces 405 horsepower at 5800 rpm (an increase of 30 over '92), and 385 pound-feet of torque at 5200 rpm (15 more than last year).

The improved power and torque come from detail improvements in the engine's ability to breathe. We say detail changes because there are no significant changes to valve timing, lift, or port shape. None of the usual tricks was used to increase airflow. Instead, the shapes of the intake valve head and valve seat have been altered subtly for improved flow and a sleeve spacer used to guarantee perfect alignment between cylinder head and manifold ports. Also new for '93 is a change to four-bolt main bearing caps in anticipation of future power increases, and both Mobil 1 synthetic oil and platinum-tipped spark plugs are standard in the four-cam V-8 and LT1.

Just as GM pioneered the smart ignition key on the '86 Corvette, the '93 models introduce GMs Passive Keyless Entry system, which brings a novel, new touch to keyless entry. It's not only keyless, it's brainless. The system is basically a proximity device, with a small transmitter in the key fob and two receivers in the vehicle (one in each door for the roadster and one in door and hatch for the coupe). As you approach the car, the transmitter signals the vehicle to open one or both doors automatically (option is programmable), without any driver action. Walk away, and PKE locks the car—with the keys buried deep in your pocket. But wait, there's more—this is electronic-gadget nirvana. PKE is like having a personal servant who takes care of locking, unlocking, turning on the interior light, ensuring you don't lock the keys in the ignition, and arming and disarming the PASS-Key deterrent system. Walking away from the Vette, you can hear the locks close, and a discreet, single beep from the horn. If you don't hear the horn, you've left the keys in the ignition, and PKE has left the door unlocked. The system can be shut off at your discretion.

Surprisingly, for '93, the width of the front wheels and tires has decreased (ZR-1 remains the same as in '92) from 275/40ZR17 on 9.5-inch-wide wheels to 225/45ZR17 on 8.5-inch-wheels. Corvette engineering manager John Heinricy explains that this change was driven by two concerns. First, the move to smaller fronts increases understeer, balancing the potential oversteer from the increased power of the LT1 engine. Second, the smaller tires also are less subject to groove-wander, a term used by tire engineers to describe a tire's tendency to follow highway rain grooves, making the car wander.

It certainly would seem more logical to compensate for the increased engine power by increasing tractive capacity at the rear, but the General works in strange ways, and we can only assume the added benefit of improved rain-groove steering and decreased rolling resistance swayed the decision in favor of smaller fronts.

Both cars are ferocious performers, but the extra 100 horsepower, 1300 more useable rpm, and monster GS-C Goodyears of the ZR-1 elevate it to a class of its own. After a day of screaming engines and squealing tires at the test track, we chose the ZR-1 for the freeway commute home, and found it

PHOTOGRAPHY BY SCOTT DAHLQUIST

nearly as pleasant as many luxury-class cars.

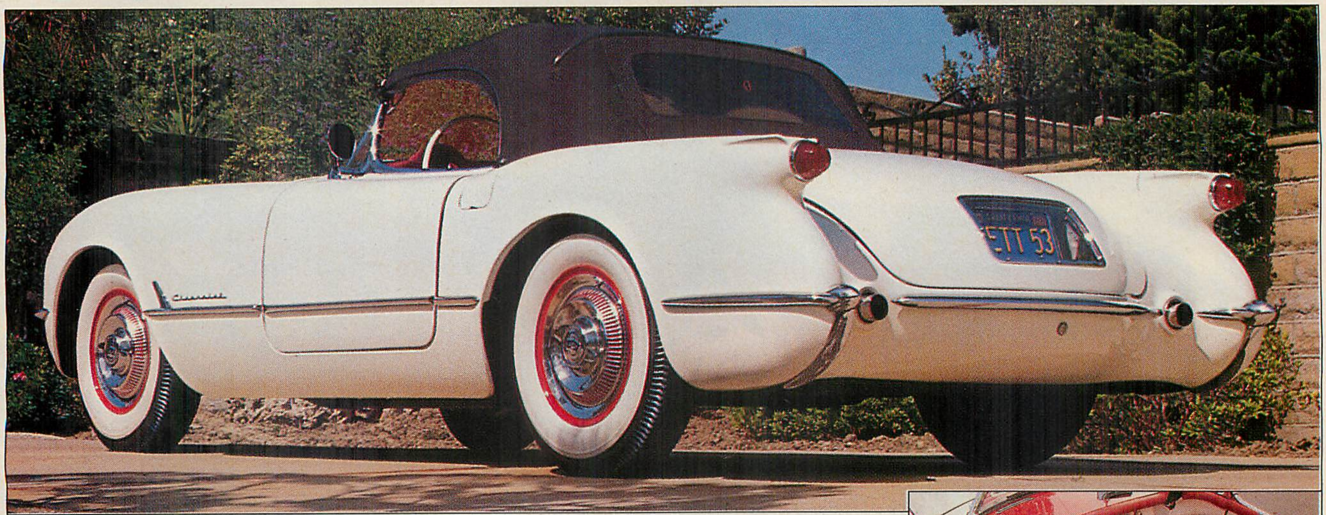
In the past, taking friends for a ride in a Corvette always meant apologizing for its shortcomings: "Never mind the harsh ride, it really handles well on the racetrack," or "it shakes so much because it's made of fiberglass." The modern Corvette has always been able to compete with any two-seat sports car on the planet in a head-to-head competition, but not in terms of refinement and polish. This is no longer true.

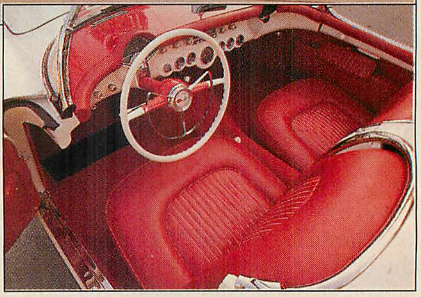
The Vette has come a long way from its skinny-tired, underpowered, two-speed-transmissioned sire of 40 years back. These '93 Corvettes have reached a level of sophistication and finesse thought impossible a few short years ago. In his obligatory ride, my Acura Legend-driving neighbor had only good things to say about the ride quality (three-way shocks in the tour position elicited a "Smooth"), power ("Wow"), sound system ("That's a Bose, eh?"), and six-speed manual ("Ever forget which gear you're in?").

The Corvette continues on its path of yearly refinement and improvement. If your desires run to two-seat sports cars, and you have $34,595 to spend, look no further than the coupe, while the LT1-powered roadster pictured here runs $41,195. And you heavy-hitters out there can park the ultimate Vette in your garage for $66,278.

# '53 CORVETTE

## DREAM COME TRUE





Of the more than a million Corvettes manufactured during the last 40 years, only 300 were '53 models. Chevrolet erected an impromptu assembly line in Flint, Michigan, to expedite what was advertised to a breathless buying public as "the first of the dream cars to come true."

Actually, the birth of the Corvette was a nightmare for manufacturing engineers new to fiberglass body construction. Chevy dealers had an equally tough time selling a $3498 two-seater with a six-cylinder engine, two-speed automatic, side curtains, and rudimentary soft top when a '53 Cadillac coupe cost but $73 more.

To study the origin of the species, we extended feelers for a suitable first-year Corvette. Dr. Frederick Reeser, a Hartland, Wisconsin, ophthalmologist, was agreeable to a test drive in his car, the 107th Corvette to roll off the Flint assembly line. Last summer, this machine won a Bloomington Gold award for authenticity, so we knew we had a prime example of the breed.

Sliding under the umbrella-like top requires yoga contortions: chin on chest, arms and legs retracted, spine wound up tighter than a licorice stick. Once all extremities are drawn in through the restricted door opening, it's possible to redeploy legs, but arms must stay folded to embrace a steering wheel that crowds both thighs and chest.

The cricks of embarkation quickly fade as the eye relishes cockpit gear unheard of in pre-'53 domestic automobiles: the challenging face of a 140-mph speedometer, a parking brake warning lamp worthy of a nuclear reactor, a row of secondary instruments stretching well beyond the driver's reading range, a delicate chrome floor lever for telegraphing instructions to the Powerglide transmission.

The mood intensifies when the 150-horsepower Blue Flame six lights off. A heavy throttle pedal simultaneously cracks three carburetor butterflies and sends a deep rumble out a split manifold and down dual exhaust pipes. A solid-lifter clatter adds a sense of urgency.

Period road test results rate the '53 Corvette's 0-60 prowess at 11 seconds and its top speed slightly over 100 mph, but at around-town speeds, the reconstituted truck engine belts out enough torque to take on the world. At anything less than full throttle, the transmission quickly upshifts to dial the Blue Flame down to a mellow pilot-light status.

The unassisted steering is slow and heavy-feeling at parking speeds, but reasonably precise on the road. An aggressive brake application wipes out some of the '53 Corvette's sense of direction, but the chassis settles evenly with no tendency to dive.

Early customers expecting either an instant LeMans winner or a foppish boulevardier were disappointed. But what the '53 Corvette lacked in performance and creature comforts, it made up for in an endearing personality. At birth, it was endowed with the critical fun-to-drive essence, and that character trait, more than any other, has sustained the Corvette these 40 years.

*— Don Sherman*

PHOTOGRAPHY BY C. VAN TUNE

## TECH DATA

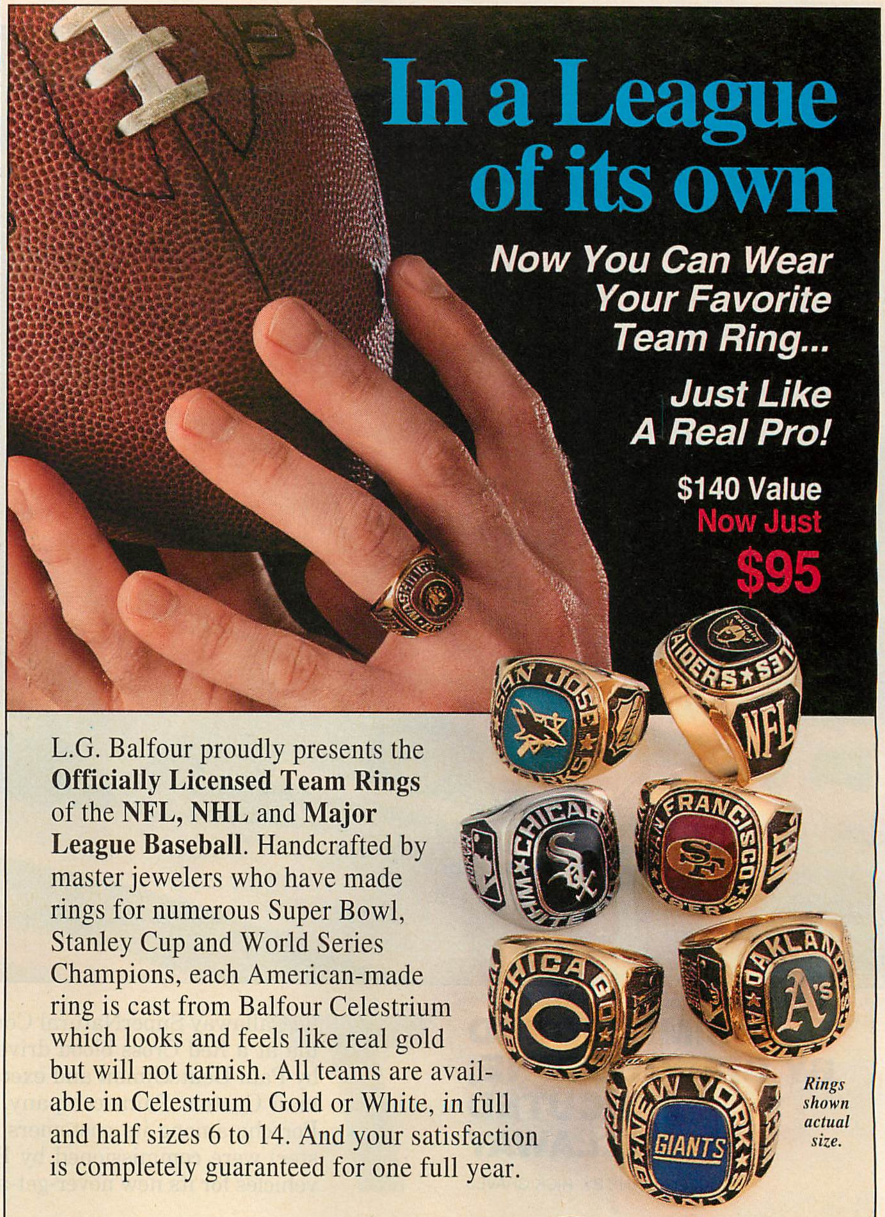
### Chevrolet Corvette LT1

| GENERAL/POWERTRAIN | |
|---|---|
| Body style | 2-door, 2-passenger |
| Vehicle configuration | Front engine, rear drive |
| Engine configuration | V-8, OHV 2 valves/cylinder |
| Engine displacement, ci/cc | 350/5733 |
| Horsepower, hp @ rpm, SAE net | 300 @ 5500 |
| Torque, lb-ft @ rpm, SAE net | 340 @ 3600 |
| Transmission | 6-speed manual |
| Axle ratio | 3.45:1 |
| **DIMENSIONS** | |
| Wheelbase, in./mm | 96.2/2444 |
| Length, in./mm | 178.5/4535 |
| Height, in./mm | 46.3/1177 |
| Base curb weight, lb | 3333 |
| Fuel capacity, gal | 20.0 |
| Fuel economy, EPA city/hwy., mpg | 17/25 |
| **CHASSIS** | |
| Suspension, f/r | Independent/independent |
| Steering | Rack and pinion, power assist |
| Brakes, f/r | Vented discs/vented discs |
| Wheels, f/r, in. | 17 x 8.5/17 x 9.5 |
| Tires, f/r | 225/40ZR17/285/40/ZR17 |
| **PERFORMANCE** | |
| Acceleration, 0-60, sec | 5.6 |
| Quarter mile, sec/mph | 14.0/101.7 |
| Braking, 60-0, ft | 116 |
| Slalom, 600-ft, mph | 65.2 |
| Skidpad, 200-ft, lateral g | 0.93 |
| **PRICE** | |
| Base price | $34,595 |
| Price as tested | $40,074 |

## TECH DATA

### Chevrolet Corvette ZR-1

| GENERAL/POWERTRAIN | |
|---|---|
| Body style | 2-door, 2-passenger |
| Vehicle configuration | Front engine, rear drive |
| Engine configuration | V-8, DOHC, 4 valves/cylinder |
| Engine displacement, ci/cc | 349/5727 |
| Horsepower, hp @ rpm, SAE net | 405 @ 5800 |
| Torque, lb-ft @ rpm, SAE net | 385 @ 5200 |
| Transmission | 6-speed manual |
| Axle ratio | 3.45:1 |
| **DIMENSIONS** | |
| Wheelbase, in./mm | 96.2/2444 |
| Length, in./mm | 178.5/4534 |
| Height, in./mm | 46.3/1177 |
| Base curb weight, lb | 3503 |
| Fuel capacity, gal | 20.0 |
| Fuel economy, EPA city/hwy., mpg | 17/25 |
| **CHASSIS** | |
| Suspension, f/r | Independent/independent |
| Steering | Rack and pinion, power assist |
| Brakes, f/r | Vented discs/vented discs |
| Wheels, f/r, in. | 17 x 9.5/17 x 11.0 |
| Tires, f/r | 275/40ZR17/315/35ZR17 |
| **PERFORMANCE** | |
| Acceleration, 0-60, sec | 4.9 |
| Quarter mile, sec/mph | 13.1/109.6 |
| Braking, 60-0, ft | 112 |
| Slalom, 600-ft, mph | 66.3 |
| Skidpad, 200-ft, lateral g | 0.95 |
| **PRICE** | |
| Base price | $34,595 |
| Price as tested | $67,878 |



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## COMMISSIONED BY BRIDGESTONE, EXECUTED BY CALLAWAY

PHOTOGRAPHY BY RICK GRAVES

# CALLAWAY SUPERNATURAL CL-1 CORVETTE

by Ron Grable

**ROAD TEST**

The Callaway SuperNatural Corvette roadster draws attention like Dracula at a Red Cross blood drive. The outrageous paint job was designed by Paul Deutschman and executed by Spiess Hecker, the ultimate German Custom Paint company, which lists BMW, Audi, Mercedes, and Porsche among its customers. Two such vehicles (a coupe and a roadster) were commissioned by Bridgestone to be used as demonstration vehicles for its new never-get-a-flat tire technology.

The SuperNatural designation refers to the fact that these cars are normally aspirated, a departure for Callaway Cars, which, over the past six years, has sold over 500 Vettes with twin turbochargers. The new SuperNatural aims at a wider audience, appealing to customers who might be apprehensive about the additional complexity and perceived reliability of the turbocharged cars.

Complete SuperNatural cars are available from Callaway, or a customer can deliver his Vette to the plant at Old Lyme, Connecticut, to be upgraded accordingly. The options are available for either LT1 or LT5 (LT1s must be '88 or later) individually, or as a complete SuperNatural package. Appearance options include the aerobody kit, priced at $11,600 installed and painted ($12,600 for ZR-1s), exotic paint job of your choice including a custom interior color comes to $7500, or a full-on Connolly leather interior for $15,000. In the performance department, Callaway offers a COIL system (Coil Over Independent Link) to replace the standard Corvette composite leaf springs, priced at $2825, Brembo billet brake system for $4250, a center outlet exhaust to draw attention to the lack of spare tire ($1700), the Bridgestone Expedia Run-flat tires (275/40ZR17 front, 315/35ZR17 rear) on required special three-piece wheels that are 17x9.0-inch fronts and 17x11.0-inch rears. The Run-flat tire and wheel option is $5000.

It would seem pointless to spend all that money and not get the killer motor, so

for another $10,390, the CL-1 (LT1 motor) engine package is included, which increases power to 403 horsepower at 5800 rpm. The engine package for the LT5 raises power to 475 horsepower and is priced at $14,750.

We used the CL-1 for this test, but all the options are applicable to the ZR-1 (Callaway designation CR-1), as well, the only differences are relative to the engine modifications. Our analysis will address only the pushrod motor.

For the engine, Callaway uses a LeBlond Makino machine, one of the world's most advanced computer-controlled machine tools. The cylinder heads are mounted on this machine, which shapes the intake and exhaust ports so they're exactly in the correct location. If the cores for the ports are slightly misaligned, or they shifted when the cylinder head was originally cast, the LeBlond machine corrects the variances.

The LeBlond machine also guarantees position and size of each combustion chamber. The standard Chevrolet combustion chamber is "as cast," so the LeBlond improves it to a fully machined (read more accurate) surface finish.

The intake manifold also gets LeBlondized to ensure its ports exactly match their counterparts in the heads, and it has the ideal port surface finish. A three-angle valve job and exact matching of valve spring pressures complete the airflow improvements. A Callaway-designed camshaft replaces the original Chevrolet cam.

All this attention to the ports, intake manifold, exhaust system, and combustion chamber means each cylinder is fed the same amount of charge, compresses the same, exhausts the same. The resultant equal power from each cylinder produces the smoothest possible power, since all the pulses reaching the crankshaft are equal.

The SuperNatural exhaust system retains the original-equipment catalytic convertors, but the Chevrolet center resonator is replaced with a two-into-one-into-two section, plus a center exit extension that routes through the space normally occupied by the spare tire. Callaway claims this exhaust layout duplicates the sound of the famous racing small-block Chevrolets. It's close—but no cigar. The raucous wail of a small-block Chevy requires tube headers and a zillion rpm, and there's no way to duplicate that except with a good tape recorder.

The Brembo brake option is a definite improvement. The standard Vette brakes use a floating caliper system, with hydraulic pressure to the pads on only one side of the disc. The Brembo system utilizes a floating rotor squeezed between four fully pressurized brake pads. In addition, the rotor itself is of a superior-quality cast iron (reportedly more homogeneous and, therefore, temperature stable) and is mounted on an aluminum center section, which reduces unsprung weight. The rotor diameter is also 0.75 inches larger than stock for increased braking torque. The brakes give the CL-1 improved braking feel, and it's much easier to modulate braking force short of full ABS.

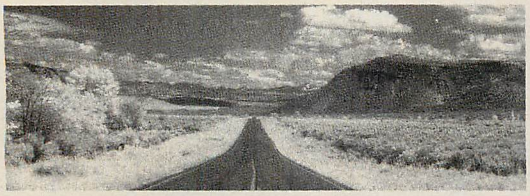
RUN-FLAT
BRIDGESTONE
MOTOR TREND
CALLAWAY

**The Callaway SuperNatural grabs attention like Dracula at a Red Cross blood drive**

The Corvette suspension is retained on the SuperNatural Vette, with one exception: Bilstein shock/spring units replace the traditional Corvette leaf spring. The Corvettes standard leaf spring is unconventional, and there's always been one body of thought that it affects the independence of the suspension because the same

# THE BEST REASON YET TO CHOOSE COUNTY 17 INSTEAD OF THE INTERSTATE. SAAB INTRODUCES THE 9000 CSE.

The Interstate Highway System may be a prudent, efficient way to get from point A to point B. But it's not much fun to drive.



**IT'S WAITING.**

Unfortunately, the same could be said of many new cars. With the noteworthy exception of the Saab 9000 CSE, a sports sedan you can drive hard with your conscience intact.

Ask it to run, and it complies as though the idea were its own, planting you deeper into the leather upholstery. Yet it delivers its exhilarating 200hp* thrust while keeping a wary eye on its own fuel appetites.

Ask it to embrace serpentine roadways, and it feels slotted into the asphalt. A sensation created, in part, by a new chassis design that substantially increases torsional rigidity.

Ask it to stop on a rain-slicked surface, and a unique anti-lock braking system does so with literally inhuman precision.

Ask it to help you survive an accident, and its rigid steel safety cage, crumple zones, driver's-side air bag and new side-impact measures are put to work.

The result is a car that responds to your emotions without betraying your conscience. And one whose warranty (6 years or 80,000 miles**) could well outlast your payments.

To learn more, choose a direct route to your nearest Saab dealer, where the 9000 CSE awaits your test drive. And save the back roads for the trip home. Or call 1-800-582-SAAB.

SAAB SCANIA

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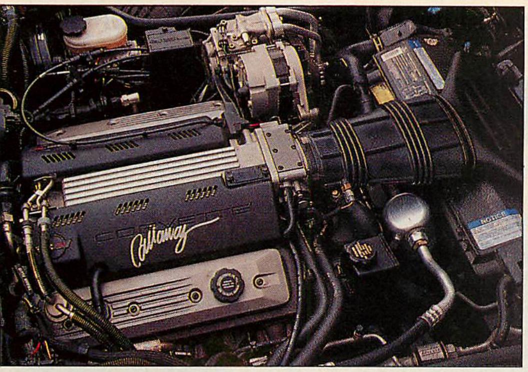
*WITH AVAILABLE 2.3-LITER TURBOCHARGED ENGINE. **WHICHEVER COMES FIRST. SEE YOUR SAAB DEALER FOR COMPLETE DETAILS ON LIMITED POWERTRAIN WARRANTY. © 1992 SAAB CARS USA, INC.



SuperNatural refers to the normally aspirated engine. It would seem pointless to spend all that money and not get the killer motor.

# TECH DATA

RUN-FLAT
BRIDGESTONE

## Callaway Corvette SuperNatural 400

### GENERAL

| | |
|---|---|
| Make and model | Callaway Corvette SuperNatural 400 |
| Manufacturer | Callaway Cars, Inc., Old Lyme, Conn. |
| Location of final assembly plant | Old Lyme, Conn. |
| EPA size class | Two-seater |
| Body style | 2-door, 2-passenger |
| Drivetrain layout | Front engine, rear drive |
| Base price | $41,195 (Corvette convertible) |
| Price as tested | $82,560 |
| Options included | Callaway CL-1 Aerobody, $11,600; custom color, $7500; wheels/tires, $5000; COIL suspension, $2825; SuperNatural 400 engine, $10,390 |
| Ancillary charges | N/A |
| Typical market competition | Corvette ZR-1, Acura NSX, Porsche 928 |

### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 96.2/2444 |
| Track, f/r, in./mm | 58.9/60.4/1496/1534 |
| Length, in./mm | 178.5/4534 |
| Width, in./mm | 71.0/1803 |
| Height, in./mm | 47.3/1201 |
| Ground clearance, in./mm | 4.2/107 |
| Manufacturer's base curb weight, lb | 3400 |
| Weight distribution, f/r, % | 50/50 |
| Cargo capacity, cu ft | 6.6 |
| Fuel capacity, gal | 20.0 |
| Weight/power ratio, lb/hp | 8.4 |

### ENGINE

| | |
|---|---|
| Type | V-8, liquid cooled, cast iron block cast aluminum heads |
| Bore x stroke, in./mm | 4.00 x 3.48/ 101.6 x 88.4 |
| Displacement, ci/cc | 350/5733 |
| Compression ratio | 10.5:1 |
| Valve gear | OHV, 2 valves/cylinder |
| Fuel/induction system | Multipoint EFI |
| Horsepower | |
| hp @ rpm, SAE net | 403 @ 5800 |
| Torque | |
| lb-ft @ rpm, SAE net | 414 @ 4500 |
| Horsepower/liter | 70.3 |
| Redline, rpm | 5500 |
| Recommended fuel | Unleaded premium |

### DRIVELINE

| | |
|---|---|
| Transmission type | 4-speed auto. |
| Gear ratios | |
| (1st) | 3.06:1 |
| (2nd) | 1.63:1 |
| (3rd) | 1.00:1 |
| (4th) | 0.70:1 |
| Axle ratio | 2.73:1 |
| Final-drive ratio | 1.91:1 |
| Engine rpm, 60 mph in top gear | 1300 |

### CHASSIS

| | |
|---|---|
| **Suspension** | |
| Front | Upper and lower control arms, coil springs, anti-roll bar |
| Rear | Upper and lower control arms, trailing links, coil springs, anti-roll bar |
| **Steering** | |
| Type | Rack and pinion, power assist |
| Ratio | 15.7:1 |
| Turns, lock to lock | 2.3 |
| Turning circle | 40.0 |
| **Brakes** | |
| Front, type/dia., in. | Vented discs/12.9 |
| Rear, type/dia., in. | Vented discs/11.9 |
| Anti-lock | Standard |
| **Wheels and tires** | |
| Wheel size, in. | 17 x 9.0 |
| Wheel type/material | Cast aluminum |
| Tire size | 275/40ZR17 |
| Tire mfr. and model | Bridgestone Expedia S-01 Run-flat |

### INSTRUMENTATION

| | |
|---|---|
| Instruments | Digital speedo; digital tach; fuel level; oil pressure; battery; volts; oil temp.; coolant temp.; average mpg; mpg/range; digital clock |
| Warning lamps | Security; change oil; check gauges; belts; brake; door ajar |

### PERFORMANCE AND TEST DATA

| | |
|---|---|
| Acceleration, sec | |
| 0-30 mph | 2.0 |
| 0-40 mph | 3.2 |
| 0-50 mph | 4.4 |
| 0-60 mph | 5.9 |
| 0-70 mph | 7.7 |
| 0-80 mph | 10.1 |
| Standing quarter mile | |
| sec @ mph | 14.0 @ 97.6 |
| Braking, ft | |
| 30-0 mph | N/A |
| 60-0 mph | 115 |
| Handling | |
| Lateral acceleration, g | 0.94 |
| Speed through 600-ft slalom, mph | 67.6 |
| Speedometer error, mph | |
| Indicated | Actual |
| 30 | 32 |
| 40 | 40 |
| 50 | 49 |
| 60 | 58 |
| Interior noise, dBA | |
| Idling in neutral | 64 |
| Steady 60 mph in top gear | 75 |

### FUEL ECONOMY

| | |
|---|---|
| EPA, city/hwy., mpg | 15/23 |
| Est. range, city/hwy., miles | 300/460 |

spring controls both wheels. From a pragmatic standpoint, the leaf spring makes it difficult to adjust vehicle height, and altering spring rates means a lengthy removal and replacement job. On the positive side, the leaf spring layout is space efficient and inexpensive.

Replacing the original shock absorber with the Bilstein coil/shock unit allows the ride height to be adjusted quickly with a threaded collar beneath the spring. Spring rate changes are much easier (important to fine-tune handling), and the COIL system eliminates any potential cross-feeding of lateral loads from side to side, for "true" independent suspension.

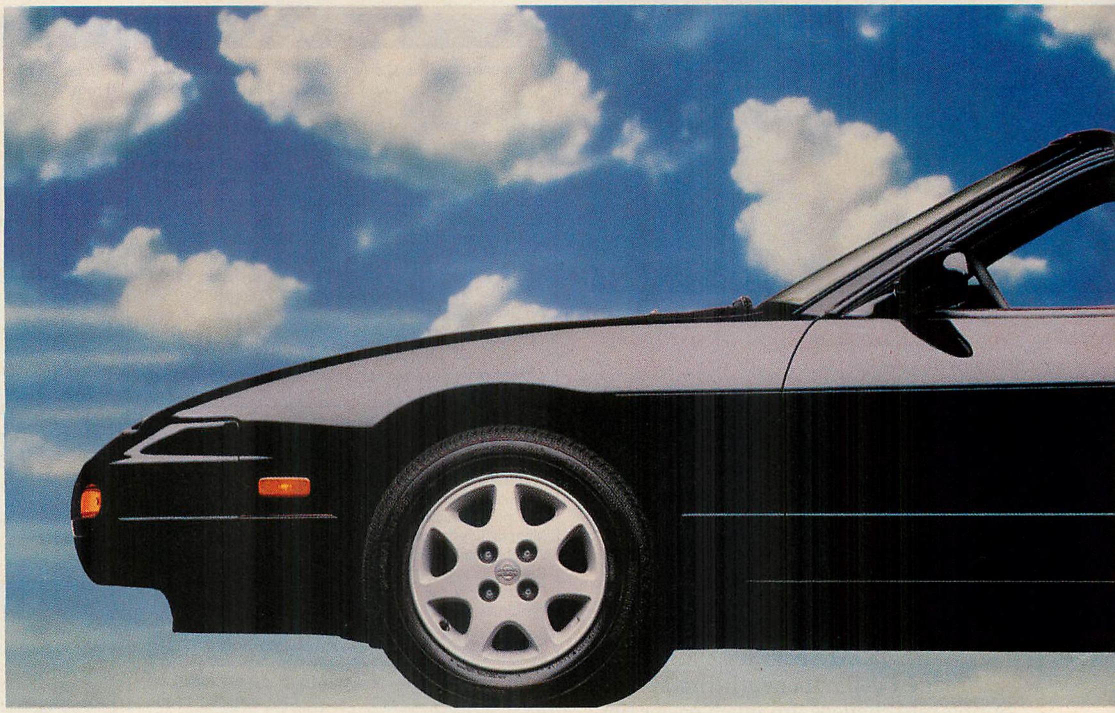
The CL-1 has very nearly the same spring rates as standard, and the ride height is set at the exact design height. Even so, we found the rear suspension would bottom on the street, especially if the shocks were in the soft setting. Clicking the shocks up to full hard eliminated most of the bottoming, but increased the ride harshness significantly. The best compromise was using the sport (middle setting) for street use, and going to competition (hardest) setting if the car was to be driven hard.

Driven hard, the SuperNatural CL-1 rewards the driver with exceptional cornering dynamics. The CL-1 anti-roll bars are Z-51 pieces, so the cornering balance is biased toward neutral, but in the real world, a couple objectionable characteristics surface. The car draws an inordinate amount of attention, and the exhaust note is much too intrusive at freeway speeds. On the positive side, the expected harshness from the Run-flat tires wasn't evident, and the massaged engine is wonderful to use.

For the Corvette owner with deep pockets, Callaway offers a smorgasbord of goodies. We think a nice combination would be the engine option, Brembo brakes, and COIL system, which would only lighten your checkbook $17,465. Not bad, considering the whole SuperNatural package adds over $50,000 to the price. Nobody ever said exclusivity was gonna be cheap.

We live in a time where pepperoni pizza with extra cheese has apparently given way to green salad with dressing on the side. Where fantastic nights on the town have turned into evenings in front of the VCR. Where frugality has seemingly replaced fun.

But it has been called to our attention that there are still some people who demand a little spice in their lives. And as long as there are people like these, a company called Nissan will continue to painstakingly design some of the world's most exciting cars.



The limited-edition 240SX® Convertible being the perfect example.

From top to bottom, the 240SX Convertible is a model of completeness.

Let's start from the top. To keep out noise and moisture, three different materials were sandwiched together. The outer layer is made of a cotton/nylon material that has been given a special water-resistant sealant. The center layer is made of rubber for added waterproofing. And finally, a finishing layer of cotton fabric is used as the headliner—making the cabin as tight as a tick when the roof is locked down.

Want some sun? Simply flip two latches, push a button, and the power convertible top and power rear windows go immediately to work. The top glides effortlessly into position and folds down neatly behind the rear seats. Presto. Instant convertible—without ever leaving the driver's seat.

# A hot fudge sundae in

Inside the cabin, you'll find elegant appointments like those typically found in high-priced luxury coupes. Thick, plush carpeting blankets the floor. Hand-stitched leather adorns the steering wheel. Buttons for the power door locks, cruise control and power front and rear windows have been optimally placed to be within easy reach of the driver. And

*Nissan Motor Corporation U.S.A. Smart people always read the fine print. And they always wear their seat belts. *1993 Environmental Protection Agency estimates 21 miles*

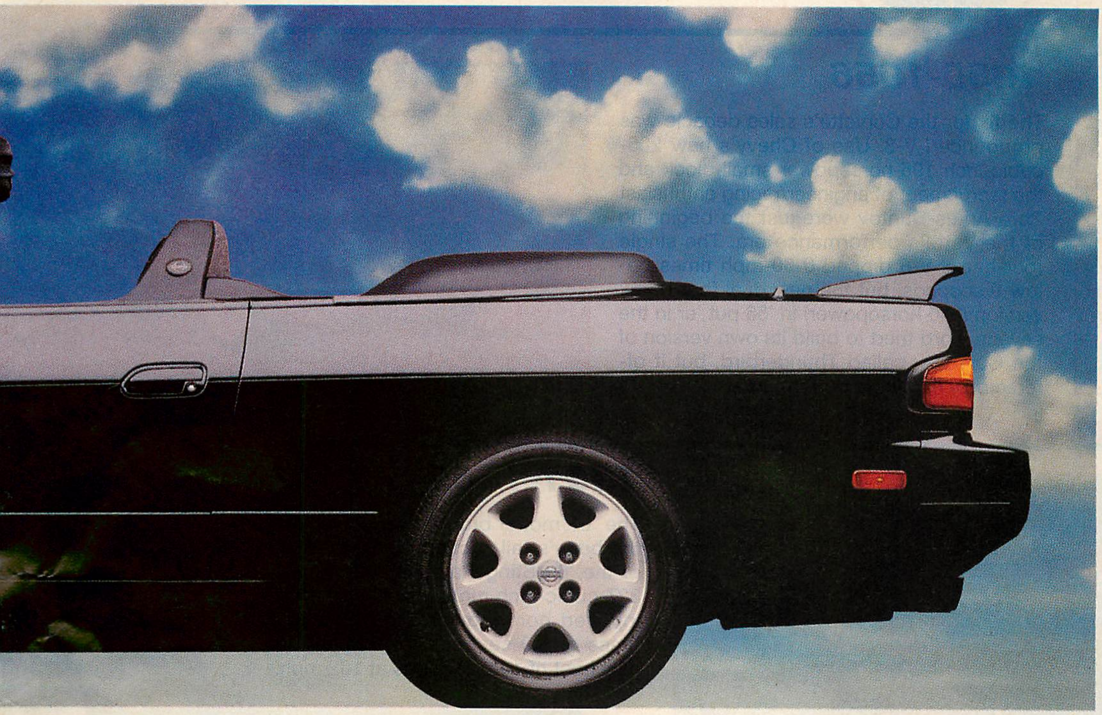
# a bran muffin world.

the bucket seats are worthy of their own paragraph.

To begin with, the seats have been specially tailored in a unique monoform design that hugs and supports your body in the most critical areas. Next, the seats are wrapped in seamless, highly durable fabric that has been carefully selected by our designers. The net result is an extremely comfortable seat that substantially reduces hip slip and driver fatigue.

The instrument panel is yet another example of ergonomic efficiency. Thousands of man-hours have been spent making sure all gauges can be read at a moment's glance.

Of course, unlike most convertibles in its price range, the 240SX is a sports car both on the surface as well as under its skin. Tap the accelerator and you'll quickly see the difference between the real thing and the imposters. Its DOHC, four-valve-per-cylinder engine generates an impressive 155 horsepower at 5600 rpm. While its highly advanced sequential multi-point fuel-injection system delivers the precise amount of fuel to each cylinder—maximizing fuel efficiency* while providing the optimum amount of power.



Take it through its paces and you'll see how its advanced multi-link rear suspension, rear-wheel drive and power-assisted rack-and-pinion steering work in total harmony, giving the automobile extremely precise control and instilling the driver with the utmost confidence.

If this sounds like the kind of driving experience you'd be interested in, call us at 1-800-NISSAN-6 or visit your nearest Nissan Dealer and arrange an invigorating test-drive.

You'll find the 240SX Convertible is unquestionably more than a feast for the eyes.

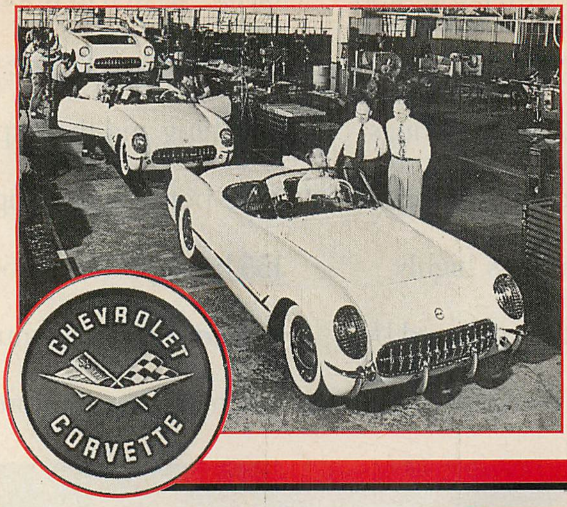
NISSAN *It's time to expect more from a car.*™

*per gallon city/26 miles per gallon highway with automatic transmission. Use these Environmental Protection Agency estimates for comparison. Your mileage may vary.*

# RETROSPECT

by C. Van Tune

For 40 years, the Corvette has been something of an enigma: a flamboyant challenger to automotive sensibilities. Born in the wide-eyed postwar era, the two-seat plasticar emerged from conservative giant General Motors as a bold attempt to try something new—to lure the young with a car as sporty as anything Europe could offer. But early Vettes were more showboat than sports car, and abysmal sales nearly killed the project after only the second year. The song of a V-8 and steady applications of performance are what saved the Corvette from disaster, and the all-American ragtop rapidly grew into a true world-class sports machine. The legend created by Harley Earl's original design sketches remains as strong today as ever. Enjoy the trip.

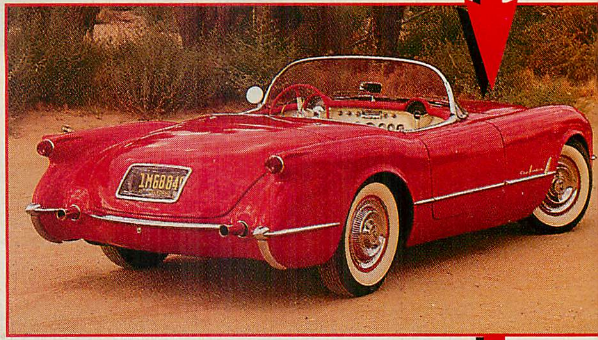


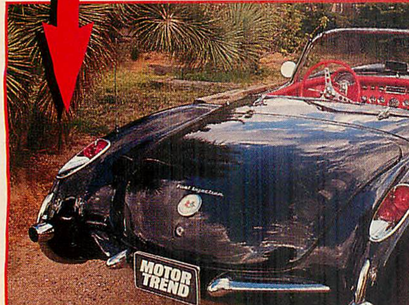
## 1953-1954

The first Corvettes rolled off a makeshift assembly line in Flint, Michigan. Based on a GM Motorama show car, the Vette went from concept to reality in only one year. But as unique as it looked on the surface, mostly off-the-shelf parts were used underneath. A shortened Chevy sedan frame, 235-cubic-inch 150-horsepower "Blue Flame" inline six, and two-speed automatic transmission restricted performance (0-60 mph in 11.5 seconds), while the staggering $3498 pricetag created waves of sticker shock. Only 300 Vettes were produced the first year, and by the end of the '54 season, 1100 cars out of the 3640 built remained unsold.

## 1955-1956

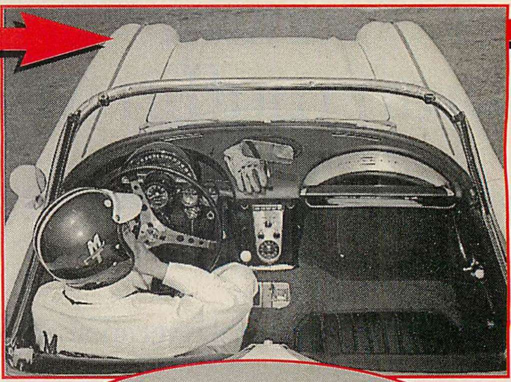
The fix for the Corvette's sales debacle was pronounced V-8. Use of Chevy's new 265-cubic-inch 195-horsepower small-block and the recruitment of engineer/racing enthusiast Zora Arkus-Duntov were just the beginning of the Vette's performance era. The single four-barrel V-8 dipped 0-60-mph times below 9 seconds, but the new dual four-barrel version (240 horsepower) in '56 put 'er in the sevens. Ford tried to build its own version of the Corvette, called Thunderbird, but it offered only mediocre performance.

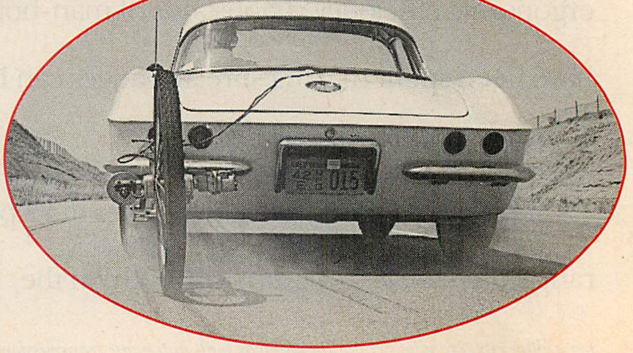




## 1961-1962

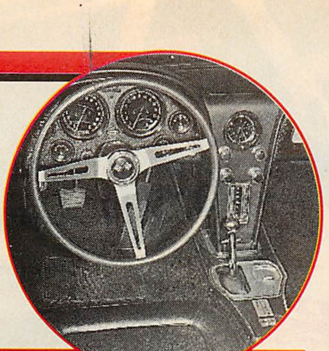
The '61 model brought no powertrain improvements, but the body's tail section restyle hinted at the eventual look of the '63 Sting Ray. For '62, there was a new series of 327-cubic-inch motors boasting outputs of up to 360 fuel-injected horsepower. *Motor Trend* recorded 0-60-mph times of 5.9 seconds for this hot setup, with a quarter-mile best of 14.9 seconds at 102 mph.

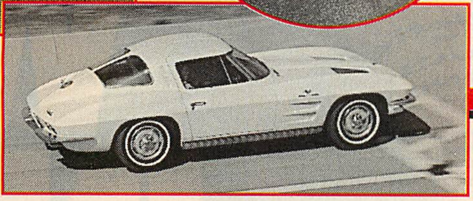




## 1957-1960

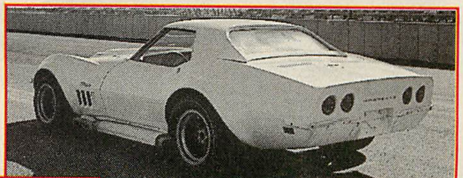
Chevy's "racing performance program," created by chief of engineering (and future GM president) Ed Cole, was headed by the aggressive Arkus-Duntov. Though not "officially" in racing, Chevy supplied many privateers with out-the-back-door parts shipments. Significant engine, brake, and chassis improvements took place during these formative years, including the introduction in '57 of the 283-cubic-inch "fuelie" motor. The new automotive fashion trend, quad headlamps, debuted in '58, and horsepower climbed to 315 in '60. The Thunderbird developed two more seats (and scads more buyers), leaving Corvette to enjoy total sales of over 25,000 cars for the years of '58 through '60.

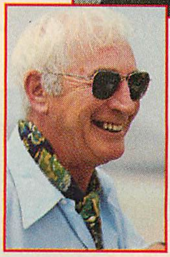




## 1963-1967

Stylist Bill Mitchell's split-window Sting Ray carried a look that dominated until '68. Its shorter wheelbase and independent rear suspension gave the new Vette impressive grip, while the "ZO6" option made it a capable competition car. The rear window bar was eliminated in '64, and up to 375 horsepower was offered. A 396-inch 425-horsepower big-block V-8 and four-wheel-discs showed up in '65, and the mighty 427-cubic-inch came on scene in '66 (0-60 mph in 5.6 seconds). Even more power was yours in '67 by ordering the "L88" 427, underrated at a laughable 435 horsepower.



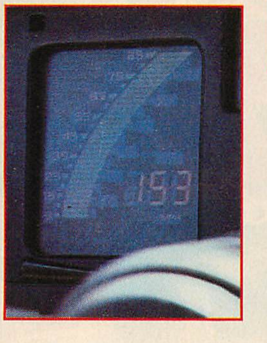


## 1968-1972

A dapper Arkus-Duntov oversaw the equally flashy '68 Corvette, which shared genes with the Mako Shark show car. Only minor styling differences denote the '68 through '72 Corvettes; but under the hood, things were improving. The base engine size increased to 350 cubic inches ('68), the 427 was stroked to 454 ('70), and the 350-inch LT-1 came in '71. The thundering ZL-1 (photo immediately above) was an aluminum-engine brute with well over 500 horsepower. Quarter miles of 10.5 seconds and a calculated top speed of over 190 mph made this the all-time monster Corvette. Only two ZL-1s were built.

## 1973-1982

Sadly, the era of emissions control and rapidly declining performance was upon us. Corvettes were becoming slower, heavier, and more expensive. The '74 model was the last for the mighty 454, while '75 brought the first catalytic converter and a "big" engine option of a 205-horsepower 350-cubic-inch smogger. The ragtop was canceled in '76. Speculators hoarded most of the 6502 "25th Anniversary" editions built in '77, but few realized any quick profits. Ironically, '79 was the best sales year ever, with 53,807 deliveries. A bodylift in '80 carried through to '82, as the last of the "old-style" Corvettes was put to rest.



## 1984-1992

There was no '83-model Corvette. Though the totally redesigned car went on sale in March 1983, Chevy touted it as an '84 model. Lighter, roomier, quicker, better handling, and more economical with fuel than in '82, the new Vette was chock full of techno goodies. The clamshell hood tilted forward to reveal the massive 16-inch Goodyears and the artful design of the 5.7-liter 205-horsepower engine. A Doug Nash "4+3" manual transmission was standard, and suspension tuning was set at one notch under "permanent spinal damage." The video-display dashboard drew raves from some, jeers from others. Tuned-port fuel injection arrived in '85, boosting output to 230 horsepower, while suspension harshness was dialed back a notch or two. Anti-lock brakes and aluminum cylinder heads appeared in '86, and the convertible returned to production. The Callaway Twin-Turbo option ($19,995) bowed in '87, and regular Vettes got 17-inch wheels in '88. The Doug Nash tranny was replaced by a ZF six-speed in '89, but the four-cam 375 horsepower (a $27,016 package option) ZR-1 was delayed until '90. However, its 0-60-mph times of 4.8 seconds and quarter miles of 13.1 seconds at 110 mph put the ultraVette in with some truly fast company. While '91 was essentially carryover, the '92 model year brought the fabulous LT1 5.7-liter 300-horsepower engine and traction control. With quarter-mile times only about 0.6 seconds slower than those of the ozone-priced ZR-1, the Corvette LT1 is one of the best high-performance bargains today.

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1992 INDYCAR WIN LEADER

1992 BELGIUM GRAND PRIX CHAMPION

1992 DAYTONA 24-HOURS CHAMPION

# FORD TECHNOLOGY. MORE MAJOR RACING WINS IN 1992 THAN ANYONE.

Vancouver, British Columbia. San Felipe, Mexico. Toronto, Ontario. Daytona Beach, Florida…

The 1992 Ford Motorsports season may read like a geography lesson. But at Ford, we call it "Winning 101." And while our overwhelming success features plenty of exotic locations,

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1992 NASCAR CHAMPIONS

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our destination is much closer to home.

Because racing technology is the ultimate research for building the Ford you can drive. And the more we push to outrun the world's finest competition, the more we learn about basics like performance. Aerodynamics. And safety. So the next time we win a race, think of your next car.

At Ford, that's what we're concerned about in the first place.

**HAVE YOU
DRIVEN
A FORD
LATELY?**

# TOYOTA SUPRA TURBO

**ROAD TEST**

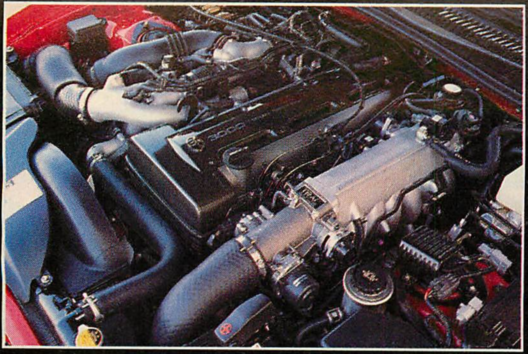
## LEANER AND MEANER

by Mac DeMere

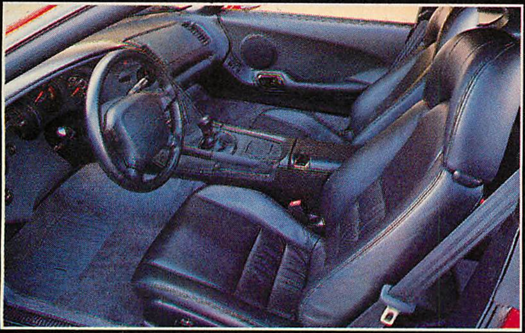
PHOTOGRAPHY BY SCOTT KILLEEN

To accurately characterize the radically revised Toyota Supra Turbo's racetrack performance, we were forced to consult the Society of Experimental Test Pilots' "Manual of Performance Descriptions That Don't Begin With 'F' ": "Holy, bloody smokes."

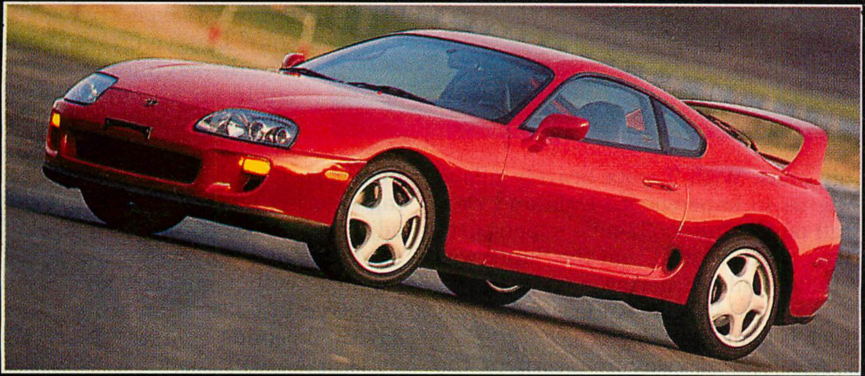
It's an understatement to say that the new Supra Turbo, with its exhilarating 320 horsepower, shone brightly during evaluation on Atlanta Motor Speedway's



The Turbo's twin-cam 24-valve inline six produces 320 horsepower, yet pulls easily from 1100 rpm in sixth gear. The lighter, shorter, lower, wider Supra shares many components with the Lexus SC 300, including floorpan, several suspension pieces, and for the naturally aspirated version, 220-horsepower engine and five-speed manual transmission. The Supra, which won't reach showrooms until May or June, features dual airbags.



Virtually the only visual difference between the Supra and Supra Turbo is the Turbo's optional rear wing. Toyota says projection-beam headlamps offer unprecedented night vision. Results of a determined weight-loss program include aluminum hood and plastic fuel tank. Functional side air intakes cool rear brakes and differential.



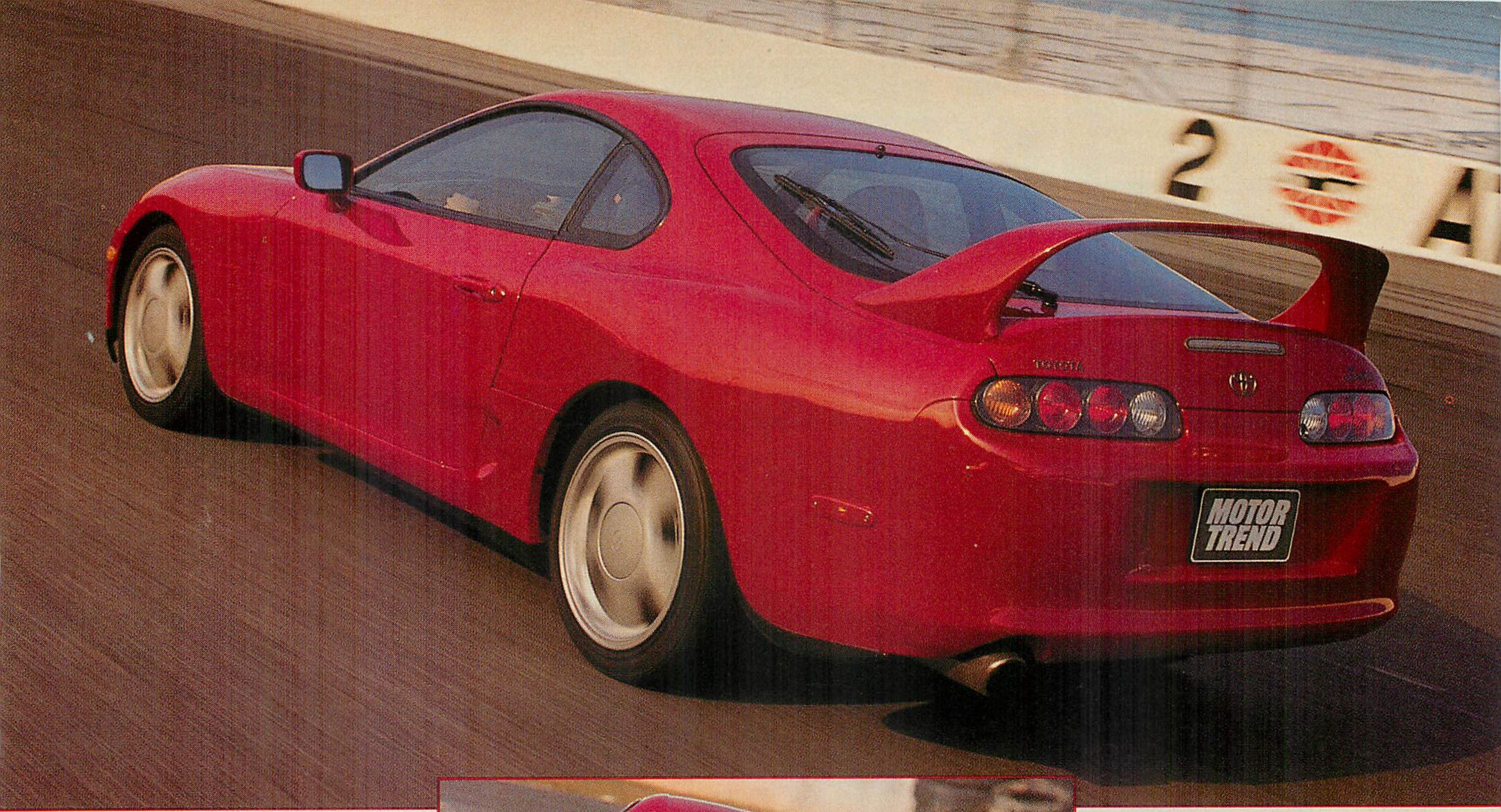
new road circuit. (Please don't mistake this highly necessary research for rat-racing between giggling delayed-onset adolescents.) The results of hot laps, uh, research: The new Supra Turbo is ready to go head to head on the racetrack with the Mazda RX-7, which previously whipped all comers in two *Motor Trend* road-circuit raceoffs. Though surprising, the new Supra Turbo's prowess isn't shocking considering its power- and torque-to-weight advantages over the RX-7, as well as its wider tires and bigger brakes.

Also unexpected was the swiftness of the unblown Supra. Featuring a better power-to-weight ratio than last year's Supra Turbo, it's certain to give the Mitsubishi 3000GT VR-4 and Dodge Stealth R/T Turbo tag team a run for its money.

This excellence didn't come easily to the Supra. In '86, Toyota aspired to move the Supra into the ranks of big-league sports cars. However, its sophisticated suspension and powerful turbo engine were partially offset by its full-figured heft, making it more a sporty GT than a serious sports car. Falling short of such prime-time players as the Acura NSX, Chevrolet Corvette LT1, Stealth R/T Turbo, RX-7, 3000GT VR-4, and Nissan 300ZX Turbo, at last year's Sports Car Pro Bowl, the best spot the previous-generation Supra Turbo hoped for was color commentator...on radio. But after a diet program that resembled the Marine Corps' Weight Watchers chapter, as well as an extensive regimen of power, handling, and braking augmentation, the new Supra Turbo has a message for the opposition: Don't look back, something might be gaining on you—and flashing its lights to pass.

In addition to displaying its prowess on the racetrack, a preproduction prototype Supra Turbo was also impressive during our battery of instrumented tests: It circled the skidpad at 0.98 g and stopped from 60 mph in 109 feet—both marks equaling those of the RX-7. (With the traction control on, the Supra Turbo did a 0.96 g on the skidpad.) In 0-60-mph acceleration, the Toyota was 0.1 second behind the Mazda, but beat it to the quarter-mile mark by a half second and was a bit over 1 mph slower through the slalom. Though Toyota claims a potential top speed of 180 mph, we bumped against its electronic limiter at about 155 and ballooned to an RX-7-matching peak of 159. Note that the Supra Turbo beats the 3000GT VR-4 and Stealth Turbo, the only other 2+2s in this category, in all performance parameters. And according to Toyota, the Turbo's electronically controlled four-speed automatic adds no more than a half second to its 0-60 time.

Though we didn't have a chance to hook our fifth wheel to a naturally aspirated version, Toyota claims the regular Supra will accelerate to 60 mph in less than 7 seconds. That's quicker than the 7.1-second 0-60 time we recorded with a '91 Supra Turbo. With slightly smaller brakes and tires, the non-turbo's handling and braking numbers should be a bit short of the new Turbo's but, we're certain, superior to the old Turbo. Except for the most dedicated members of the Frequent Offender program, the



non-turbo offers more than adequate performance.

More significant than this deluge of ciphers is how easily the Supra Turbo accomplishes such outlandish performance. You can brake ridiculously deep into a corner and turn while braking, something you'll appreciate next time a back-road curve tightens dramatically and unexpectedly. This improved braking performance can be traced to a combination of increased anti-dive and anti-lift in the suspension, sticky Bridgestone Potenza RE 020s, spiral internal ventilating fins in the larger front brake rotors, and its rare four-channel, lateral-g-sensing anti-lock braking system, which, unlike common three-channel systems, can modulate the rear brakes independently.

The Supra rotates smartly into corners, quickly developing an appropriate hint of understeer, making at-the-limit cornering stable and confidence-inspiring. Credit goes to chassis and suspension improvements that include a shorter wheelbase (and the accompanying reduced overall length), increased chassis stiffness, a lower center of gravity, wider track, and double-wishbone suspension with coil-over shocks. Precise speed-sensing rack-and-pinon steering, which reduces assist as speed increases, helps catch little slides before they become big ones. With Toyota bravely allowing us to impersonate Dale and Darrell on the full 1.522-mile superspeedway, we can attest that the Supra was stable while cornering near the limit at around 140 mph—at least when the turn is banked 24 degrees.

Accelerating away from corners, the smaller of the inline six's twin sequential turbochargers gives the engine the feel of a willing V-8 at low rpm, while a larger turbo helps retain big-boost punch at high rpm. All 315 pound-feet of torque readily convert into forward motion rather than tire smoke, thanks to the always-amazing Torsen torque-sensing limited-slip differential and the disarmable traction control system. Also, Toyota's first six-speed manual transmission allows you to stay right in the torque band's sweet spot.

But as significant as any of these is the Supra's diet program. Toyota engineers eliminated a hog farm's worth of fat, despite the addition of dual airbags, six-speed transmission, Torsen differential, 17-inch wheels, traction control, and bigger brake rotors and calipers. The result: Supra and Supra Turbo weigh about 310 and 155 pounds, respectively, less than last year's versions. Weight-saving devices include an aluminum hood, tubular anti-roll bars, single exhaust system, and hollow-fiber carpet. Such features as telescoping steering wheel and electronically adjustable shock absorbers were eliminated to save weight. Replacing dual exhausts with a single system, just as effective but less glamorous, alone saved 30 pounds. Still, the Supra Turbo is about 650 pounds heavier than the RX-7, and it shows especially in braking from 100-hours-of-community-service-type speeds. However, it fares much better when compared to other 2+2 sports cars: The Supra Turbo is about 350 pounds *lighter* than the 3000GT VR-4, while the regular Supra is about 80 pounds slimmer than the Nissan 300ZX 2+2.

Yet, the Supra doesn't totally forsake its GT past. First, unlike most in this class, it has a back seat, though admittedly one best suited to briefcases, Jack Russell terriers, or preteen gymnasts. Next, despite limited time for sampling, ride comfort seemed competitive for best in class. Also, many comfort and convenience accoutrements are standard, from cruise control to anti-theft system and tilt steering wheel to power windows and door locks. The automatic transmission has a manual-shift mode that works much like Porsche's wonderful Tiptronic. Seat slide travel has been increased more than 9 inches to accommodate taller drivers. Still, if ride comfort and cupholders count more than performance, take a Lexus SC 300.

The new Supra Turbo produces higher numbers also on the window sticker. Though Toyota has yet to determine an exact price, expect it to be $5000 to $7500 more than the old car when it hits showrooms this summer.

Which brings us to the Supra's styling and, like the old football commercial says, "you make the call:" Is the rear wing, optional on the Turbo, more reminiscent of a Ferrari F40 or a Plymouth Superbird? Is the nose an aggressive statement, or does it look like a squashed Lexus SC 400? Are the taillights a bold signature or evidence that '60s stylists have come out of retirement? Is it a styling touchdown or should it get an illegal procedure flag from the taste judge?

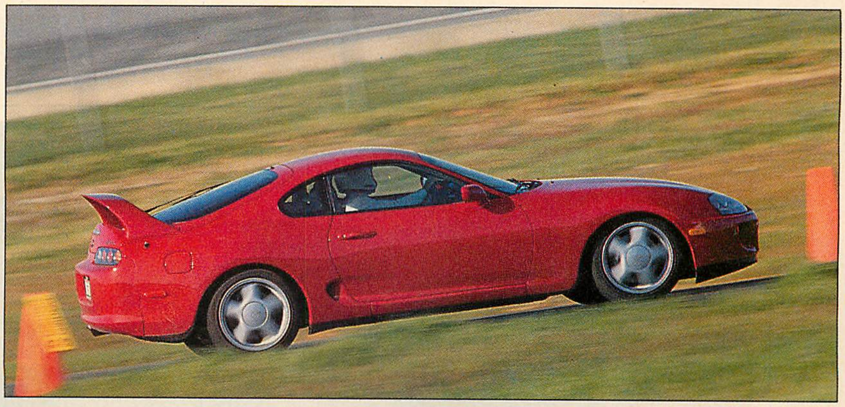
Meanwhile, the interior is clean, comfortable, and purposeful, surrounding the driver like a single-seat aircraft. A large tachometer dominates the instrument panel, but other gauges are legible, and all controls are within easy reach. The seats are supportive in high-divergent maneuvers, yet comfortable when not hot-lapping.

Toyota's goal was to produce a "real" sports car. Without qualification, and much to the certain chagrin of the opposition, it succeeded. *MT*

## SECOND OPINION

This sucker is seriously fast for a street car. It's everything the old Supra wasn't: light, nimble, responsive, and chock full of Dan Gurney's influence (at least as much as the lawyers could be talked into). There's a wealth of things to like about driving the Supra, but two really stick in my mind: the Oh-God-I-Love-It rush of the sequential turbo'd engine, and the precise feel of the six-speed—exactly like a hand-assembled, racing gearbox. Surprisingly, it's also a good looking piece. Surprising because I feared the designers would emulate the melted-candybarlike Celica, suitably pumped full of steroids. They resisted, for the most part, and the result is a finished, aggressively modern look. *—Ron Grable*

## TECH DATA



### Toyota Supra Turbo

### GENERAL

| | |
|---|---|
| Make and model | Toyota Supra Turbo |
| Importer | Toyota Motor Sales, USA, Inc., Torrance, Calif. |
| Location of final assembly plant | Motomachi, Japan |
| EPA size class | Compact |
| Body style | 2-door, 4-passenger |
| Drivetrain layout | Front engine, rear drive |
| Base price | $37,000 (est.) |
| Price as tested | $37,000 (est.) |
| Options included | N/A |
| Ancillary charges | N/A |
| Typical market competition | Chevrolet Corvette LT1, Mazda RX-7, Mitsubish3000GT VR-4 Nissan 300ZX Twin Turbo |

### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 100.4/2550 |
| Track, f/r, in./mm | 59.9/60.1/1520/1525 |
| Length, in./mm | 177.7/4515 |
| Width, in./mm | 71.3/1810 |
| Height, in./mm | 50.2/1275 |
| Manufacturer's base curb weight, lb | 3450 |
| Weight distribution, f/r, % | 53/47 |
| Cargo capacity, cu ft | 10.1 |
| Fuel capacity, gal | 18.5 |
| Weight/power ratio, lb/hp | 10.8 |

### ENGINE

| | |
|---|---|
| Type | Inline 6, liquid cooled, cast iron block, cast aluminum head |
| Bore x stroke, in./mm | 3.39 x 3.39/ 86.0 x 86.0 |
| Displacement, ci/cc | 183/2997 |
| Compression ratio | 8.5:1 |
| Valve gear | DOHC, 4 valves/cylinder |
| Fuel/induction system | Multipoint EFI, twin turbocharged, intercooled |
| Horsepower | |
| hp @ rpm, SAE net | 320 @ 5600 |
| Torque | |
| lb-ft @ rpm, SAE net | 315 @ 4000 |
| Horsepower/liter | 106.8 |
| Redline, rpm | 6750 |
| Recommended fuel | Unleaded premium |

### DRIVELINE

| | |
|---|---|
| Transmission type | 6-speed manual |
| Gear ratios | |
| (1st) | 3.83:1 |
| (2nd) | 2.36:1 |
| (3rd) | 1.69:1 |
| (4th) | 1.31:1 |
| (5th) | 1.00:1 |
| (6th) | 0.79:1 |
| Axle ratio | 3.27:1 |
| Final-drive ratio | 2.59:1 |
| Engine rpm, 60 mph in top gear | 2100 |

### CHASSIS

| | |
|---|---|
| **Suspension** | |
| Front | Upper and lower control arms, coil springs, anti-roll bar |
| Rear | Upper and lower control arms, coil springs, anti-roll bar |
| **Steering** | |
| Type | Rack and pinion, power assist |
| Ratio | 17.5:1 |
| Turns, lock to lock | 3.0 |
| Turning circle, ft | 35.4 |
| **Brakes** | |
| Front, type/dia., in. | Vented discs/12.7 |
| Rear, type/dia., in. | Vented discs/12.8 |
| Anti-lock | Standard |
| **Wheels and tires** | |
| Wheel size, f/r, in. | 17 x 8.0/17 x 9.5 |
| Wheel type/material | Cast aluminum |
| Tire size, f/r | 235/45ZR17/255/40ZR17 |
| Tire mfr. and model | Bridgestone Potenza RE 020 |

### INSTRUMENTATION

| | |
|---|---|
| Instruments | 180-mph speedo; 8000-rpm tach; fuel level; coolant temp; digital clock |
| Warning lamps | Check engine; check oil; check oil level; brake; battery; ABS; security; brake; taillights; belts; door ajar; airbag; TRAC; TRAC off |

### PERFORMANCE AND TEST DATA

| | |
|---|---|
| Acceleration, sec | |
| 0-30 mph | 2.4 |
| 0-40 mph | 3.5 |
| 0-50 mph | 4.3 |
| 0-60 mph | 5.4 |
| 0-70 mph | 7.0 |
| 0-80 mph | 8.4 |
| Standing quarter mile | |
| sec @ mph | 13.5 @ 106.6 |
| Braking, ft | |
| 30-0 mph | 30 |
| 60-0 mph | 109 |
| Handling | |
| Lateral acceleration, g | 0.98 |
| Speed through 600-ft slalom, mph | 68.5 |

Speedometer error, mph

| Indicated | Actual |
|---|---|
| 30 | 30 |
| 40 | 40 |
| 50 | 50 |
| 60 | 60 |

### FUEL ECONOMY

| | |
|---|---|
| EPA, city/hwy., mpg | 18/23 |
| Est. range, city/hwy., miles | 333/426 |

# Bumper To Bumper

Doesn't a thrill a minute seem awfully slow? It did to us.

Which is why we built a high-performance engine that can command

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# Goosebumps.

0-60 in 8 seconds* and put it into the Lexus ES300 luxury sedan.

Notice we said luxury sedan, not performance car. Because even though it has a responsive 185-horsepower V6 under its hood, and ABS brakes behind its wheels, there's a lot more to the ES300 than indulgent power.

There's indulgent everything: a sound-dampened cabin, eight-speaker audio system, power front seats and automatic climate control. There's even a remote entry system that comes standard.

Of course, if you think all of this sounds good, wait until you hear the engine. Gives us goosebumps just thinking about it.

LEXUS

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*(800-USA-LEXUS). For the hearing impaired, call 800-443-4999. *Estimated performance figure based on manufacturer's test of manual transmission vehicle.*

**ROAD TEST**

According to Pontiac, I fit the demographic profile of the "target-market" buyer for the Bonneville SLE. You don't know how odd this is. Typically, target markets look something like this: "Established CEO-type executive, age 23 years, annual income four bazillion bucks."

I'm always too old and too broke. Nobody ever wants to sell me a car. But here's the target market for the Bonneville SLE: It starts at 47 percent professional (I'm about 47 percent professional). It's mostly men (okay there). It's 55 percent college educated (my former professors would agree I'm roughly 55 percent educated). It says this guy will be 47 years old (I'm just a touch over, but who's counting?). And then it lists an income level I cover, but I ain't gonna tell because you'll just blab to the IRS. At last, a new car I'm not too old or too broke to buy.

The question is, would I?

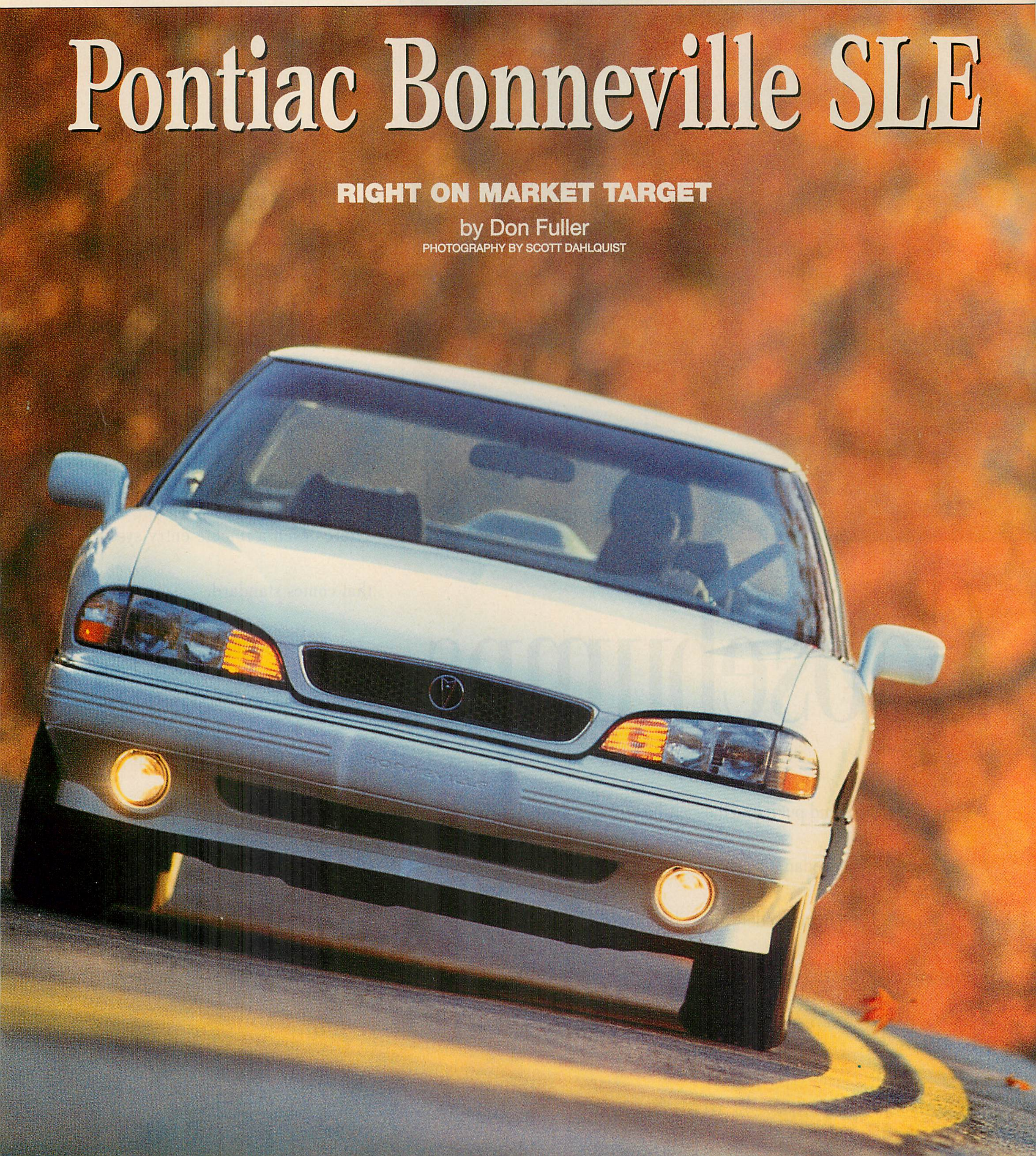
The Bonneville SLE isn't a bad choice. It's a trim option on the base SE model, if "base" can be applied to a full-size, fully

# Pontiac Bonneville SLE

## RIGHT ON MARKET TARGET

by Don Fuller

PHOTOGRAPHY BY SCOTT DAHLQUIST



equipped, luxury-appointed four-door sedan. Pontiac says this Sport Luxury Edition is targeted at import-oriented buyers. It's a big American sedan, loaded with room, trunk capacity, quiet, smoothness, and plenty of long-haul comfort—yet with some of the features, design thoughtfulness, and image that made imported luxury cars so popular.

Stylistically, it wanders off on an adventurous path; the exterior is like a recital for every curve in the stamping plant's repertoire. In SLE trim, it gets the full-body-color look, rear spoiler, 16-inch aluminum cross-lace wheels, and 225/60SR16 Goodyear Eagle GA tires. For a daddy's car, it's pretty sporty.

Interior shapes swoop and swirl everywhere. It looks strange at first, but you soon find being inside feels as snug as a hug from Mom—if Mom had a steering wheel and a gas pedal. The analog instrumentation is welcoming and legible. Soft-looking rotary switches control interior weather conditions. Only the sound system, low in the center, is a reach.

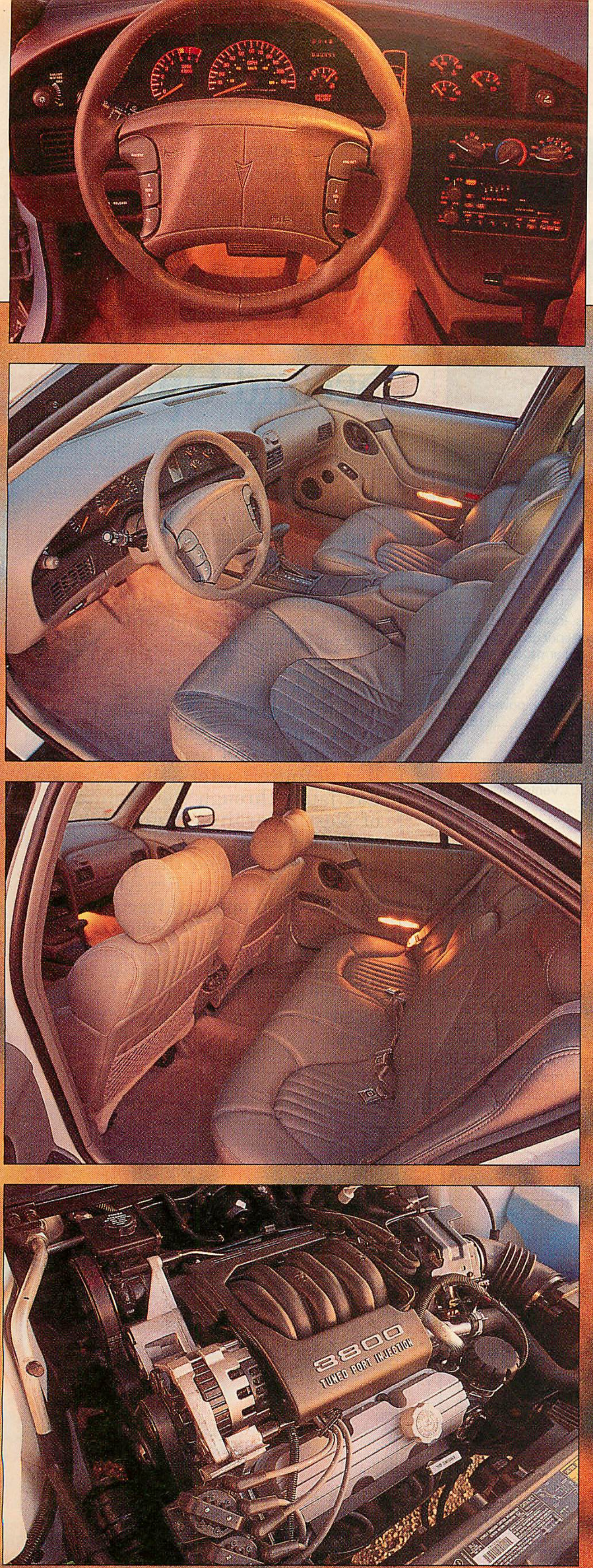
Front-seat passengers have loads of room, and there's enough space in the rear to play anything except outdoor ball games. In each front door is a map pocket with a built-in soda-pop can holder. Another, less-satisfactory cup/can holder is stored in the center console. Under the cover of the rear flip-down armrest is space for road trinkets and a couple more sodas. If your family covers ground in a caffeine jag, this is the car for you.

The SLE includes leather upholstery, bucket seats, high-grade carpets and floormats, and other goodies. A driver-side airbag is standard equipment. The total is that the SLE's interior has the look of modern art, the roominess of a cow barn, and the comfort of old shoes worn over new socks.

Forward motion is supplied by GM's 3.8-liter V-6. This veteran delivers the goods with unobtrusive competence, scoring high on driveability, mid-range and passing power, and perceived smoothness. The transmission is a four-speed automatic. With the SLE, the differential ratio becomes 3.06:1 instead of 2.84:1 as on the SE. Brakes are discs in front and drums in the rear, and ABS is standard. This combination gives performance that's completely adequate. It's not a barn-burner, but it goes, stops, and turns well enough. The feel isn't wildly athletic, but it's at least well conditioned.

The fully independent suspension offers a ride that's compliant and smooth, yet well controlled, permitting the big Bonneville to move with competent assurance and directional stability. Handling hasn't been tuned for carving up mountain roads, but for covering lots of interstates. Yet it'll wham around an on-ramp if you wish, and its steering feel is firm, direct, and responsive.

I was barreling down an interstate in the dark, in a pouring rain, at about 80

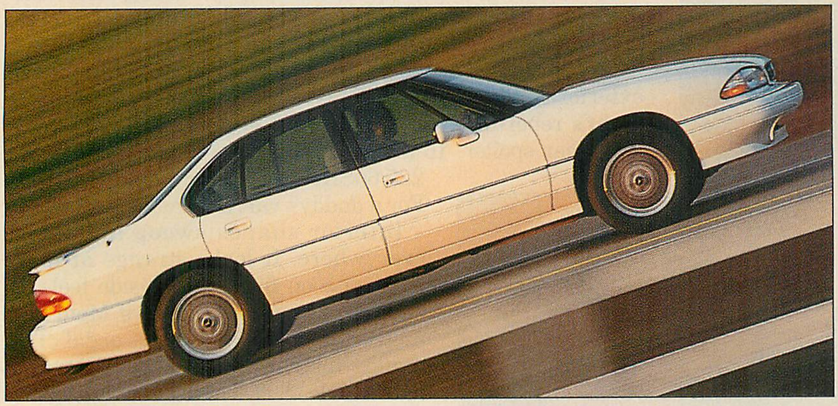


The Bonneville SLE features full instrumentation, which is easily visible and readable, and a driver-side airbag is standard equipment. Even though the swoopy interior styling might look unusual at first, it's inviting and comfortable. Rear-seat passengers enjoy huge amounts of room in practically every direction. The GM 3.8-liter V-6 generates decent performance, with good response and mid-range power.

mph. The wipers swished, the radio swooned, water roostertailed into the night. Inside the SLE, it was warm and cozy. I think that's why people who buy cars like this buy cars like this.

Do I recommend this car for which Pontiac says I'm almost demographically perfect? Why not? It's a decent value for luxury transportation, with leading-edge styling that won't get stuck in the crowd. **MT**

# TECH DATA



## Pontiac Bonneville SLE

### GENERAL

| | |
|---|---|
| Make and model | Pontiac Bonneville SLE |
| Manufacturer | Pontiac Motor Division, Pontiac, Mich. |
| Location of final assembly plant | Wentzville, Missouri |
| EPA size class | Large |
| Body style | 4-door, 5-passenger |
| Drivetrain layout | Front engine, front drive |
| Base price | $19,444 |
| Price as tested | $23,658 |
| Options included | Value equip. group (includes numerous comfort and convenience items, and Sport and Luxury Edition pkg.), $3684; AM/FM ETR w/equalizer, $375; Calif. emissions, $100; value group savings, $500 |
| Ancillary charges | Destination, $555 |
| Typical market competition | Buick LeSabre, Ford Crown Victoria, Chrysler Imperial |

### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 110.8/2814 |
| Track, f/r, in./mm | 60.8/60.6/1545/1540 |
| Length, in./mm | 199.5/5067 |
| Width, in./mm | 73.6/1869 |
| Height, in./mm | 55.5/1410 |
| Ground clearance, in./mm | 5.4/136 |
| Manufacturer's base curb weight, lb | 3362 |
| Weight distribution, f/r, % | 63/37 |
| Cargo capacity, cu ft | 18.0 |
| Fuel capacity, gal | 18.0 |
| Weight/power ratio, lb/hp | 19.8 |

### ENGINE

| | |
|---|---|
| Type | 90-degree V-6, liquid cooled, cast iron block, cast iron heads |
| Bore x stroke, in./mm | 3.80 x 3.40/ 96.5 x 86.4 |
| Displacement, ci/cc | 231/3791 |
| Compression ratio | 9.0:1 |
| Valve gear | OHV, 2 valve/cylinder |
| Fuel/induction system | Multipoint EFI |
| Horsepower | |
| hp @ rpm, SAE net | 170 @ 4800 |
| Torque | |
| lb-ft @ rpm, SAE net | 225 @ 3200 |
| Horsepower/liter | 44.8 |
| Redline, rpm | 5500 |
| Recommended fuel | Unleaded regular |

### DRIVELINE

| | |
|---|---|
| Transmission type | 4-speed auto. |
| Gear ratios | |
| (1st) | 2.92:1 |
| (2nd) | 1.56:1 |
| (3rd) | 1.00:1 |
| (4th) | 0.70:1 |
| Axle ratio | 3.06:1 |
| Final-drive ratio | 2.14:1 |
| Engine rpm, 60 mph in top gear | 1800 |

### CHASSIS

| | |
|---|---|
| **Suspension** | |
| Front | MacPherson struts, lower control arms, coil springs, anti-roll bar |
| Rear | Struts, lower control arms, coil springs, anti-roll bar |
| **Steering** | |
| Type | Rack and pinion, power assist |
| Ratio | 16.5:1 |
| Turns, lock to lock | 2.8 |
| Turning circle | 39.4 |
| **Brakes** | |
| Front, type/dia., in. | Vented discs/10.9 |
| Rear, type/dia., in. | Drums/8.9 |
| Anti-lock | Standard |
| **Wheels and tires** | |
| Wheel size, in. | 16 x 7.0 |
| Wheel type/material | Cast aluminum |
| Tire size | 225/60SR16 |
| Tire mfr. and model | Goodyear Eagle GA |

### INSTRUMENTATION

| | |
|---|---|
| Instruments | 115-mph seepdo; 7000-rpm tach; fuel level; coolant temp.; oil pressure volts; digital clock |
| Warning lamps | Service engine soon; check oil level; check gauges; electronic monitoring system; ABS; airbag; belts; security |

### PERFORMANCE AND TEST DATA

| | |
|---|---|
| Acceleration, sec | |
| 0-30 mph | 3.0 |
| 0-40 mph | 4.4 |
| 0-50 mph | 6.3 |
| 0-60 mph | 8.6 |
| 0-70 mph | 11.5 |
| 0-80 mph | 15.2 |
| Standing quarter mile | |
| sec @ mph | 16.5 @ 83.7 |
| Braking, ft | |
| 30-0 mph | 36 |
| 60-0 mph | 136 |
| Handling | |
| Lateral acceleration, g | 0.81 |
| Speed through 600-ft slalom, mph | 62.8 |
| Speedometer error, mph | |

| Indicated | Actual |
|---|---|
| 30 | 29 |
| 40 | 41 |
| 50 | 51 |
| 60 | 60 |

### FUEL ECONOMY

| | |
|---|---|
| EPA, city/hwy., mpg | 19/28 |
| Est. range, city/hwy., miles | 342/504 |

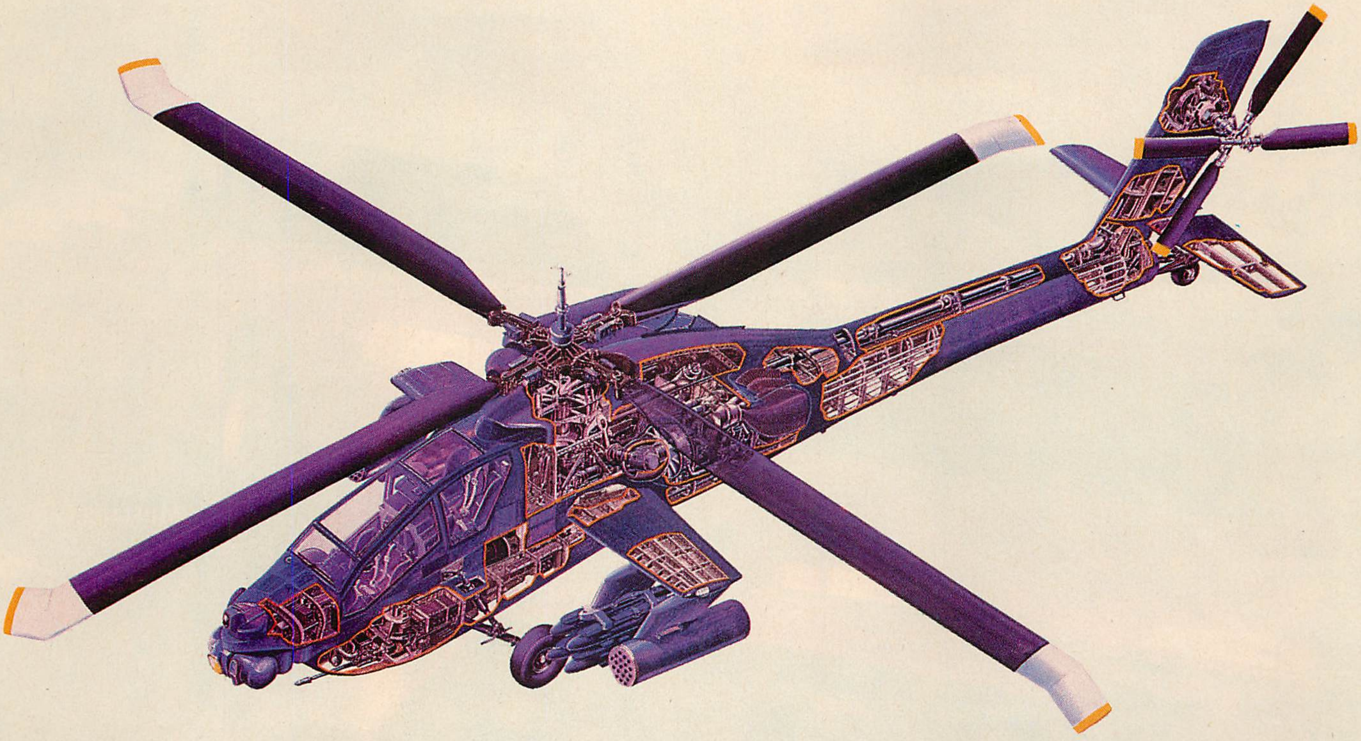
# Second Opinion

Don't get me wrong, the SE Bonneville is a nice enough car, certainly sportier than the average full-size American sedan. It's just that it lacks a certain indefinable flair, panache, presence. Stepping up to the SSE version is one answer, but maybe you don't really need all its bells and whistles, or its $25,000 (or higher) price tag.

That's the dilemma the $3489 SLE package was designed to remedy. Its distinctive monotone treatment, chrome-edged grille, cross-lace wheels, and rear spoiler make it a definite looker. And a three-day jaunt through the mountains of North Carolina confirmed it's quite liveable, as well. The 170-horse V-6 handled the mountain driving without difficulty, while the ABS and optional traction control proved valuable during a sudden snow flurry. The interior is friendly, and the supportive leather seats remained comfortable even during seven-hour driving days. *—Rik Paul*

MOTOR TREND

RESERVE OFFICERS' TRAINING CORPS



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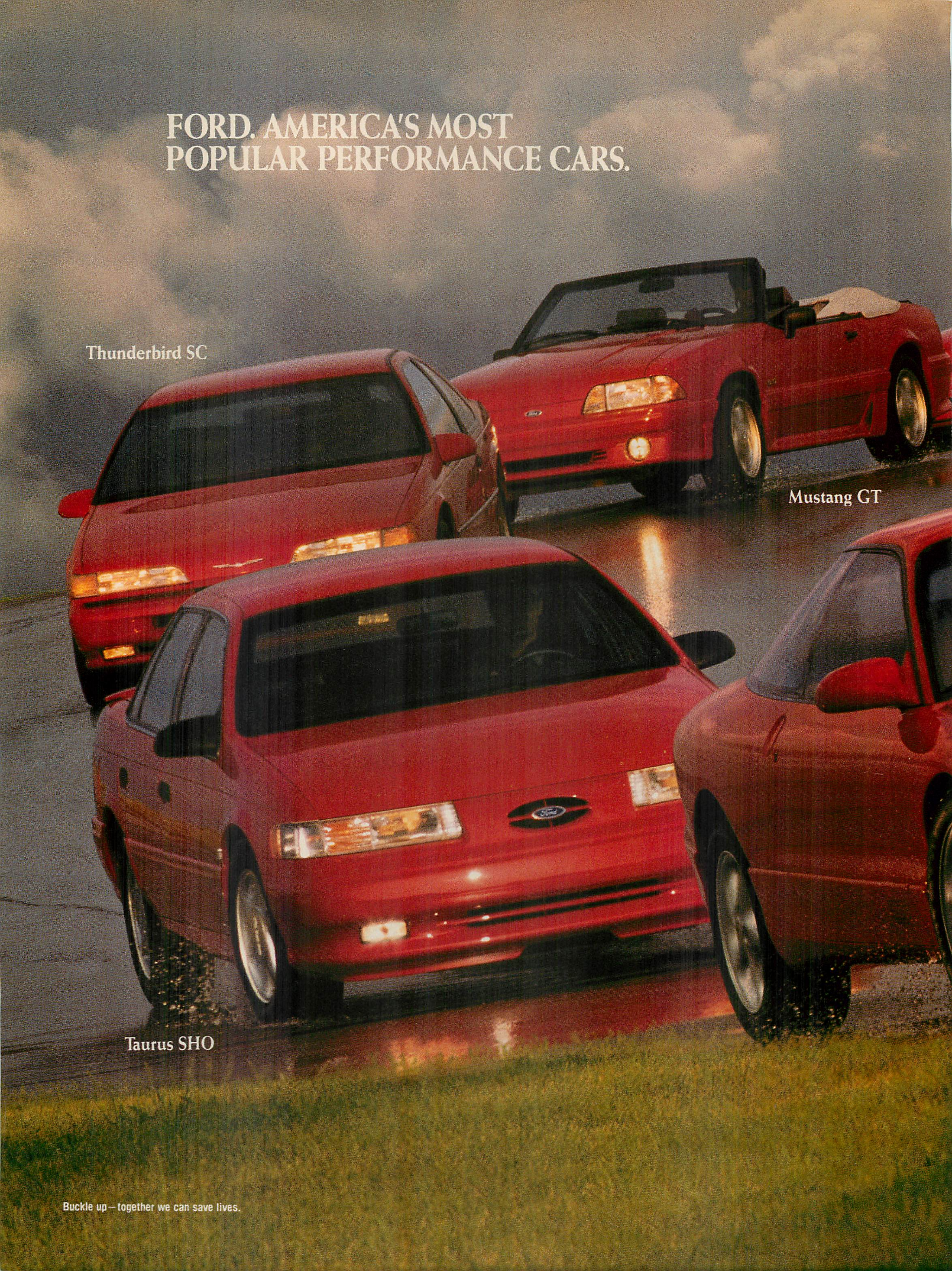
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Escort GT
New Probe GT

# AND NOW, PROBE GT IS MOTOR TREND'S 1993 CAR OF THE YEAR.

When *Motor Trend* selected the all-new Probe GT as their 1993 Car of the Year, it showed that our performance cars are as popular with the critics as they are with the public. And Probe is just the latest addition to our comprehensive line up. There's the classic V-8 muscle of Mustang GT. A supercharged expression of personal luxury in Thunderbird SC. A four-door sedan that is anything but sedate in Taurus SHO, now available with automatic *transmission*. The 16-valve Escort GT is the most affordable way to experience Ford performance. And, of course, the award-winning Probe GT. With a 24-valve V-6, it's a modern interpretation of the pure sports coupe. Five different, exciting ways to answer the call of the open road, each as uniquely individual as the people who drive them. If you're about to take up the challenge of twisting blacktop, let Ford make sure you're properly equipped.

## HAVE YOU DRIVEN A FORD LATELY?

Ford

# BMW M3

DRIVING M3 IMPRESSION

## THE "M" MEANS MORE: MORE POWER, MORE PERFORMANCE, MORE FUN

by Bernard Cahier

There's one sure bet in the automotive industry: No matter what new vehicle is introduced, there'll be at least a half dozen aftermarket manufacturers waiting with products to make it perform better and look snappier. Sometimes it works; most times it doesn't. Unless, of course, the metamorphosis is done by the original manufacturer. Perhaps one with a long history of racing success and a proven record of producing exceptional performance products. We could only be talking about BMW, and the good folks at BMW Motorsport GmbH once again have transformed the already marvelous 3-Series coupe into the M3, a Porsche-eating scene-stealer.

Putting tights and a cape on its models is nothing new to BMW. It all started with the M1 in the late '70s and is ongoing with the M5 and soon-to-be introduced in Europe 850CSi, which incorporates some M5 technology. The '93 M3 is the second iteration of this line, with the first M3 debuting in America in 1987.

Armed with a 24-valve 3.0-liter DOHC inline six, the new M3 boasts a horsepower rating of 286 at 7000 rpm and 320 pound-feet of torque at 3600 rpm. In contrast, the standard 325is offers 189 horsepower at 5900 rpm and 181 pound-feet at 4200 rpm, while the old four-cylinder 16-valve M3 kicked out 192 ponies at 6750 rpm and 170 pound-feet of torque at 4750 rpm. With nearly 50 percent more power and 88 percent more torque than its predecessor, the M3 possesses some mighty impressive acceleration. Our '93 Import Car of the Year nominee 325is ran 0-60 mph in 7.4 seconds; BMW's claim for the M3 is 6 flat. BMW also asserts the M3 has the highest specific output per liter in the world for a naturally aspirated street-legal production vehicle: 95.7. The Acura Integra GS-R comes next, at 95.4. As for top speed, there's an artificial limiter set at 155 mph, but it definitely feels as if the M3 could climb into the 160 range.

A tweak here and there under the hood is responsible for this chest-pounding performance. The use of BMW's Variable Camshaft Control explains the increased torque throughout the midrange; an increased bore and stroke, new pistons and valves (still four per cylinder), and a compression ratio bumped up from 10.5 to 10.8:1 put the *mmmmm* in the M3. In addition, a beefier suspension with firmer dampers and anti-roll bars, reinforced springs, and modified axle geometry at all four corners produce the expected results.

On our drive around the breathtaking island of Mallorca in Spain, we experienced all the pleasures of BMW Motorsport's handicraft. Launching from a stop produces instant response; the precision-made screamer starts quickly and easily fills its lungs all the way to redline, producing power in a continuous, breakneck ascent. The gear ratios are well spaced, smooth in operation, and excellently matched to the engine's torque.

Likewise, handling was comparable to the best from Japan and those "other" European manufacturers of sports cars. On the tight curves of narrow mountain roads, the M3 was constant and predictable, with little body lean.

The rack-and-pinion steering feels precise, and the anti-squat/anti-dive geometry made a noticeable difference in stability on the S-curves. You can induce oversteer if you go into the corners a bit hot, but the 50/50-percent weight distribution and a self-locking rear differential can help bring you back under control with minimal hair loss.

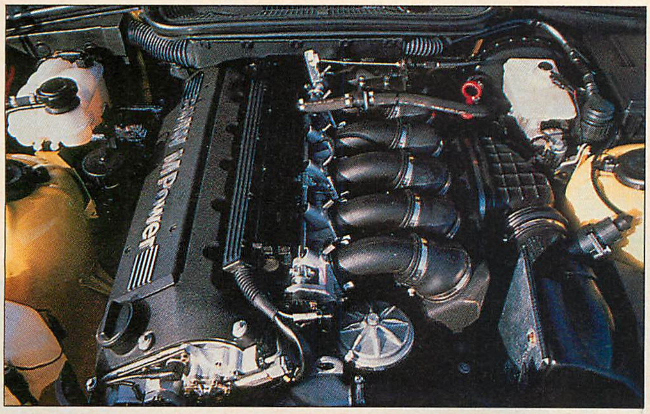
To get you back down to earth, the M3 has increased the rotor diameter of the four-wheel vented disc brakes by over 1 inch both front and rear, as well as increased the front/rear thickness. Toss in BMW's superb ABS system, and you have a car with absolutely magnificent stopping power under any conditions.

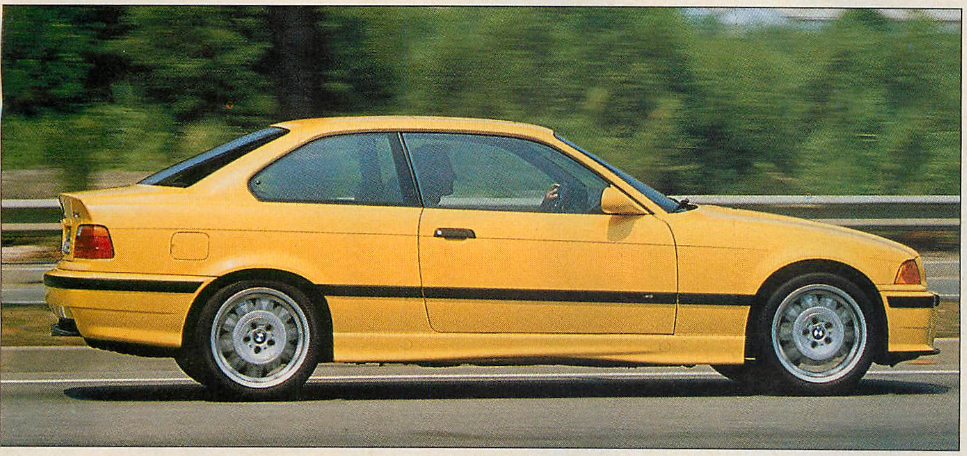
You'd think this increase in performance alone would make the Baby "Bam-Bam" Bimmer good enough to show to the public, but you've got to dress it up before you can take it out. BMW Motorsport clothed this youngster in one of its three exclusive M3 colors: Dakar yellow. If it's too bright, try Mugello red or Avus blue metallic. Color-matched side skirts, a front spoiler with a mesh air intake, modified rear apron, specially styled sideview mirrors, plus BMW Motorsports original 17x7.5-inch cast alloy wheels wearing 235/40ZR17 tires make up an exterior package that screams speed. Top it off with the required M3 trademark tri-color badge, and few who see it will challenge you on the road.

Inside, the M3 gets new, extra-support sport bucket seats adorned with a colored BMW Motorsport raindrop-pattern cloth mixed with Amaretta, a simulated-suede seat cover. For the instruments, BMW improved the speedo with a 175-mph top-speed mark, added an oil-temperature gauge, and in the tradition of BMW racing, changed the color of all the indicator needles to red.

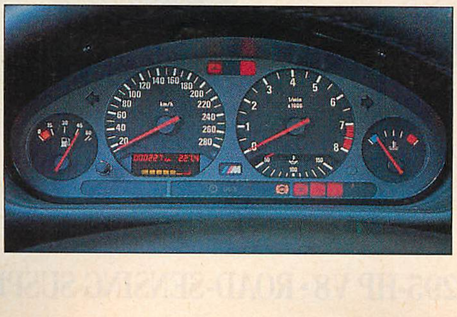
What's this super-hero upgrade going to cost? No firm prices have been set, but BMW estimates somewhere around $60,000, roughly twice the price of the factory 325is. BMW still hasn't confirmed whether the M3 will be coming to America, but if it does, you can bet it will be in limited numbers.

With the new M3, BMW once again has proven it remembers well its heritage, understands what the enthusiast wants, and has a knack for turning visions into dazzling reality.





The M3 gets upgraded sport bucket seats and red indicator needles on the instruments. Special alloy wheels and body-color side cladding create a sporty-looking package.



## TECH DATA

### BMW M3

#### GENERAL/POWERTRAIN

| | |
|---|---|
| Body style | 2-door, 5-passenger |
| Vehicle configuration | Front engine, rear drive |
| Engine configuration | Inline 6, DOHC, 4 valves/cylinder |
| Engine displacement, ci/cc | 183/2990 |
| Horsepower, hp @ rpm, SAE net | 286 @ 7000 |
| Torque, lb-ft @ rpm, SAE net | 320 @ 3600 |
| Transmission | 5-speed manual |
| Axle ratio | 3.15:1 |

#### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 106.3/2700 |
| Length, in./mm | 174.5/4433 |
| Base curb weight, lb | 3219 |
| Fuel capacity, gal | 17.2 |

#### CHASSIS

| | |
|---|---|
| Suspension, f/r | Independent/independent |
| Steering | Rack and pinion, power assist |
| Brakes, f/r | Vented discs, vented discs, ABS |
| Wheels | 17 x 7.5, alloy |
| Tires | 235/40ZR17 |

#### PRICE

| | |
|---|---|
| Price | $60,000 (est.) |

NORTHSTAR SYSTEM: 32-VALVE, 295-HP V8 • ROAD-SENSING SUSPENSION • TRACTION CONTROL •

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# MITSUBISHI MIRAGE COUPE LS

**ROAD**

**TEST**

## Your budget never looked better

by Ron Grable

PHOTOGRAPHY BY SCOTT KILLEEN

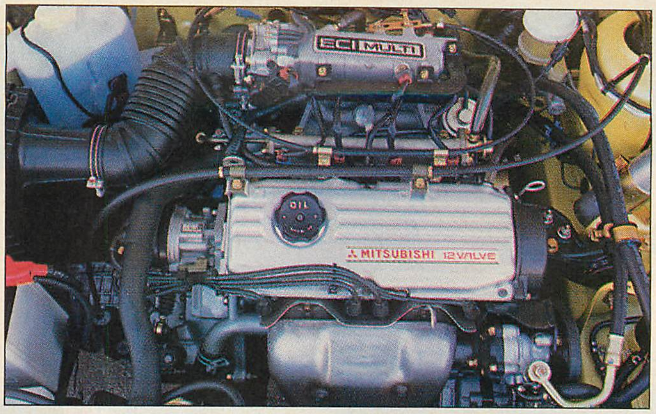
The heightened environmental consciousness in the world today has many ramifications. One is the possibility that a significant portion of automobile consumers are looking to reduce their personal ostentation. Or, at the very least, their conspicuousness. Put another way—less is in. Enter the Mitsubishi Mirage Coupe LS.

Definitely a good word—subcompact. Conjures up the proper environmental image—tree-hugger stuff. It's small, lightweight, fuel-miserly, space-efficient, and—the holy grail of environmentalism—partially recyclable. This is all good stuff, but it's our assertion that it needn't get in the way of a good time.

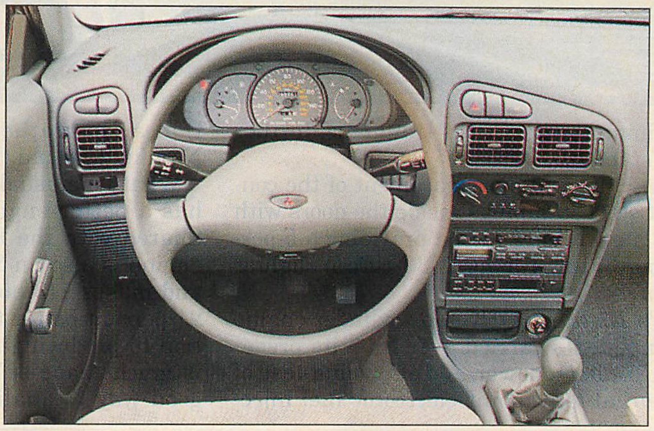
Subcompact buyers generally fall into two distinct groups. First is the budget-conscious family buyer who places price above most other considerations. Second is the entry-level buyer who can't afford anything else, but is concerned with sportiness and a youthful image.

Trying to satisfy these conflicting requirements of minimum possible cost and peppy feel is perhaps the most difficult engineering task of all. Meeting subcompact cost objectives while still providing the necessary componentry for a responsive, fun-to-drive vehicle seems an impossible task. After our time in Mitsubishi's '93 Mirage Coupe LS, we'd have to say the Mitsu engineers have juggled these conflicting requirements extremely well.

The new Mirage is a clean sheet of paper design that uses precious little from the previous-generation Mirages. Its styling is in sync with the organic, rounded



**The 1.5-liter engine produces 92 horsepower, with sequential multipoint fuel injection and three valves per cylinder, and it offers exemplary fuel economy.**



**The Mitsubishi's instrument panel belies its econocar origins. With a logical, legible layout, everything's within easy reach.**

**The Mirage interior has an open, airy feel and good seat ergonomics. The split rear seat allows creative loading possibilities.**

look that defines current design. The standard-equipment rear spoiler on our test LS and the integrated headlights combine to help the Mirage slip through the air with a 0.29 drag coefficient. Its exterior is uncluttered and contemporary, with body-color trim, subtle badging, and no tape stripes. Compared to the previous model, wheelbase has been increased and front and rear overhang decreased to maximize interior volume. Even though the new Mirage is larger than the model it replaces, it's 120 pounds lighter.

The '93 Mirage coupe also boasts more front leg, shoulder, and hip room than its direct competitors, Honda Civic, Nissan Sentra, and Toyota Corolla and Tercel. In the rear, the Mirage has more shoulder and hip room than the other three marques. Front seat head room is practically identical between the Mirage and its Honda, Nissan, and Toyota rivals.

To improve cabin visibility and brighten the interior, engineers opted for maximum glass area. They lowered the front of the hood, the vehicle beltline, and the rear deck, while maintaining the same overall height as last year's model. The Mirage's passenger compartment is typically Mitsubishi in character, with easy-to-read analog gauges and well-positioned controls. The front bucket seats also offer a good combination of comfort and support. About the only thing lacking here is an airbag, an item also unavailable on its sedan platformmate. Mitsubishi sources say this shortcoming will be rectified for 1994.

Upgrading the handling performance of the new-generation Mirage required a stiffer unibody. Large, single-piece body component stampings were used, along with selective stiffening of the structure. Computer analysis of the torsional properties of the chassis identified the potential weak sections, which were then sectionally reinforced.

Handling dynamics have been enhanced by front strut suspension with stouter lower lateral arms and increased track. Not only do the stiffer suspension components provide improved wheel control, but they reduce steering kickback over rough roads. The front underpinnings mount to a stiffer subframe that further abets overall torsional rigidity. At the rear, an all-new multilink suspension layout provides increased stability and road-holding. Upper and lower lateral links and a trailing link combine with a toe control arm to optimize wheel motion for various road and dynamic conditions. An improved urethane bump rubber makes

Coupe
MIRAGE LS
MITSUBISHI
MOTOR TREND

transitions into maximum bodyroll less traumatic, further increasing cornering stability.

Passenger safety is addressed by replacement of the conventional side-impact steel stampings inside the doors with high-tensile-strength steel tubing. While providing a 5-percent increase in strength, this tubing is 30 percent lighter than in last year's version.

The Mirage Coupe's 1.5-liter SOHC four-cylinder engine is one of the few components carried over from its predecessor. Still rated at 92 horsepower and 93 pound-feet of torque, it uses sequential multipoint electronic fuel injection and breathes through three valves per cylinder. Nothing unusual there.

What is unusual is the more conservative Mirage Sedan has a better engine that's not available in the Coupe. Shared with the Expo LRV, this larger (1.8-liter) Sedan engine is also an SOHC, but has four valves per cylinder and makes 113 horsepower and 116 pound-feet of torque, 21 percent better than the 1.5-liter Coupe motor. In addition to producing more absolute power, the larger engine is much "happier" than the one used in the Coupe. One good way to qualitatively measure this happiness is by

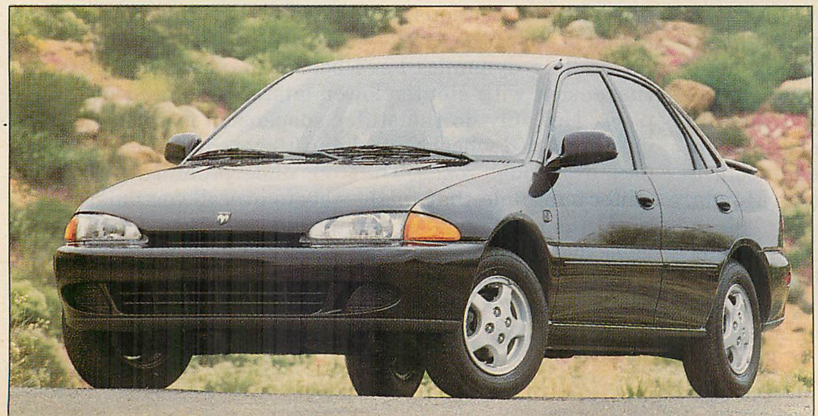
## MIRAGE COUPE ES CONCEPT VEHICLE

Why is it true car people never can leave a car alone? We've all seen the type. They bring home their brand-spanking new Zoom-mobile 2000 and immediately rip off the stock wheels and tires for the latest suction-cup tires and polished 2-foot-wide wheels. We know about these guys, because that's who we are—including a certain group of product planners at Mitsubishi.

Most of the work on this special Coupe was done by Mitsu technical services people. The goal was to produce a tightly focused, custom Mirage Coupe that an entry-level buyer could create for himself to personalize his ride. One of the ideas was to make the project cost-effective, so the limit was set at $13,000 for the finished vehicle.

The project started with a mid-level ES Coupe. Aftermarket DP Motorsport 15x7.0-inch wheels and 205/50VR15 Yokohama AVS tires satisfactorily fill the wheelwells, while a HKS sport muffler and window tint job were the outside modifications. The Mitsubishi parts bins contributed a rear spoiler from the LS Mirage Coupe, side sill extensions from a Japanese market Mirage, and some killer subwoofers and upgraded rear speakers for the sound system. As you can see, the project group couldn't resist a DJ Jazzy Jeff and The Fresh Prince paint job, but they were quick to point out that it wasn't absolutely necessary and wasn't included in the $13,000 limit.

The result looks great and came in on budget. What more can you ask? *—R.G.*



**The Mitsubishi Mirage is one of a set of quadruplets. Brothers Dodge and Plymouth Colt, plus Eagle Summit, are identical vehicles, with some individualized badging. In the Plymouth and Dodge lineup, the Colt is the base vehicle with Colt GL the upper trim level, while the Eagle comes in base and upper-level ES with body-colored trim.**

noise, vibration, and harshness. At all throttle settings, the 1.8-liter motor has less NVH than its smaller sibling and makes its power in a much friendlier manner. It revs freely and sounds as if it's enjoying itself. We think the Coupe should be available with this 1.8-liter engine, at least as an option. After all, it's been designed, and is being marketed, to appeal to the sportier-minded Mirage buyer, who will in all probability use the engine harder than will his counterpart in the Sedan. With our five-speed LS Coupe needing a lengthy 11.0 seconds to hit 60 mph, it's entirely appropriate to offer the smoother, more powerful 1.8-liter, at least in the top-line, "performance" variant.

Also high on our wish list for the LS is a more aggressive tire option. The standard 175/70SR13 radial is adequate, but a premium handling tire would offer the customer a welcome alternative.

Don't misunderstand: The Mitsubishi Mirage Coupe has a nimble, responsive feel on the road and is inherently fun to drive. But with a 0.79 lateral g figure and 60.7-mph slalom clocking, it's clear the Mirage is more sporty in feel than it is in hard performance. It also offers a reasonably quiet cabin environment, with good ergonomics.

In the take-no-prisoners climate of the subcompact wars, price is almost everything, and with the Mirage Coupe carrying a base price of $10,299, it appears Mitsubishi has a winner on its hands. *MT*

## SECOND OPINION

There's an old saying in racing: "The stopwatch doesn't lie." And no matter how good the race car looks or feels, the bottom line is the stopwatch. Granted, the new Mirage Coupe LS wasn't meant to be a race car, but when we see a fresh, good-looking sporty coupe, we automatically expect crisp performance numbers.

We were pleased with the all-new Coupe's exterior styling cues and interior appointments. What was interesting was, while the LS felt reasonably quick down the dragstrip and on the slalom, the 11.0-second 0-60 and the 60.7-mph run through the slalom left us wanting a bit more.

Mitsubishi is known for getting things right the first time. But if it would please put more horsepower and traction in the option column, we'd be happy—and the stopwatch won't lie. *—Michael Brockman*

## TECH DATA

### Mitsubishi Mirage Coupe LS

#### GENERAL

| | |
|---|---|
| Make and model | Mitsubishi Mirage LS |
| Manufacturer | Mitsubishi Motor Sales of America, Inc., Cypress, Calif. |
| Location of final assembly plant | Mizushima, Japan |
| Body style | 2-door, 5-passenger |
| Drivetrain layout | Front engine, front drive |
| Base price | $10,299 |
| Price as tested | $12,093 |
| Options included | Air conditioning, $780;<br>CD player, $621 |
| Ancillary charges | Destination, $393 |
| Typical market competition | Honda Civic, Nissan Sentra, Toyota Tercel |

#### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 96.1/2440 |
| Track, f/r, in./mm | 57.1/57.5/1450/1460 |
| Length, in./mm | 171.1/4345 |
| Width, in./mm | 66.5/1690 |
| Height, in./mm | 51.4/1305 |
| Ground clearance, in./mm | 5.9/150 |
| Manufacturer's curb weight, lb | 2127 |
| Weight distribution, f/r, % | 62/38 |
| Cargo capacity, cu ft | 10.5 |
| Fuel capacity, gal | 13.2 |
| Weight/power ratio, lb/hp | 23.1 |

#### ENGINE

| | |
|---|---|
| Type | Inline 4, liquid cooled, cast iron block, cast aluminum head |
| Bore x stroke, in./mm | 2.97 x 3.23/ 75.5 x 82.0 |
| Displacement, ci/cc | 90/1468 |
| Compression ratio | 9.2:1 |
| Valve gear | SOHC, 3 valves/cylinder |
| Fuel/induction system | Multipoint EFI |
| Horsepower | |
| hp @ rpm, SAE net | 92 @ 6000 |
| Torque | |
| lb-ft @ rpm, SAE net | 93 @ 3000 |
| Horsepower/liter | 62.7 |
| Recommended fuel | Unleaded regular |

#### DRIVELINE

| | |
|---|---|
| Transmission type | 5-speed manual |
| Gear ratios | |
| (1st) | 3.54:1 |
| (2nd) | 1.95:1 |
| (3rd) | 1.29:1 |
| (4th) | 0.94:1 |
| (5th) | 0.78:1 |
| Axle ratio | 3.75:1 |
| Final-drive ratio | 2.92:1 |
| Engine rpm, 60 mph in top gear | 2700 |

#### CHASSIS

| | |
|---|---|
| **Suspension** | |
| Front | MacPherson struts, lower control arms, coil springs, anti-roll bar |
| Rear | Multilink, coil springs |
| **Steering** | |
| Type | Rack and pinion, power assist |
| Ratio | 18.1:1 |
| Turns, lock to lock | 3.2 |
| Turning circle | 32.8 |
| **Brakes** | |
| Front, type/dia., in. | Discs/9.1 |
| Rear, type/dia., in. | Drums/7.1 |
| Anti-lock | Optional |
| **Wheels and tires** | |
| Wheel size, in. | 13 x 5.0 |
| Wheel type/material | Cast aluminum |
| Tire size | 175/70SR13 |
| Tire mfr. and model | Michelin LXI |

#### INSTRUMENTATION

| | |
|---|---|
| Instruments | 150-mph speedo; fuel level; coolant temp; digital clock |
| Warning lamps | Battery; oil; brake; check engine; low fuel; door; seatbelts |

#### PERFORMANCE AND TEST DATA

| | |
|---|---|
| Acceleration, sec | |
| 0-30 mph | 3.5 |
| 0-40 mph | 5.5 |
| 0-50 mph | 7.8 |
| 0-60 mph | 11.0 |
| 0-70 mph | 15.4 |
| 0-80 mph | 20.0 |
| Standing quarter mile | |
| sec @ mph | 18.0 @ 76.5 |
| Braking, ft | |
| 30-0 mph | 30 |
| 60-0 mph | 138 |
| Handling | |
| Lateral acceleration, g | 0.79 |
| Speed through 600-ft slalom, mph | 60.7 |
| Speedometer error, mph | |
| Indicated | Actual |
| 30 | 29 |
| 40 | 39 |
| 50 | 48 |
| 60 | 58 |
| Interior noise, dBA | |
| Idling in neutral | 50 |
| Steady 60 mph in top gear | 63 |

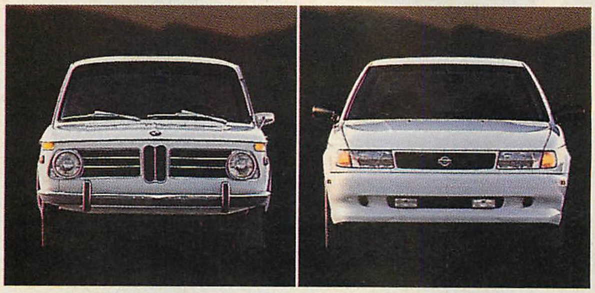
#### FUEL ECONOMY

| | |
|---|---|
| EPA, city/hwy., mpg | 31/39 |
| Range, city/hwy., miles | 409/515 |

# Critics have called the Sentra SE-R the BMW 2002 of the '90s. We don't know whether to be flattered or insulted.

When the editors of *Car and Driver* compared our Sentra® SE-R to the legendary sports sedan of Germany, we were naturally quite pleased. After all, the BMW 2002 is a car that, upon its introduction in 1968, literally defined the term "sports sedan." And one that, 25 years later, still warms the hearts, not to mention the driving gloves, of automotive enthusiasts.

But then it hit us: this is 1993. And, well, a lot has changed since the era of single cams, drum brakes and Solex downdraft carburetors. Namely, technology.



So while we welcome the notion that the SE-R has the soul of one of the most impressive sports sedans ever, we'd like to point out a few things the 2002 never had.

Things like an all-aluminum 2.0-liter 16-valve DOHC engine that produces 140 horsepower. (For history buffs, that's 40 more horses than the 2002.) A viscous limited-slip differential that automatically transfers power to the wheel with the greatest traction. And bolstered sports seats that secure your body through the twisty sections quite nicely, thank you.

The point is, the SE-R boasts over a dozen standard features that distinguish it from the 2002. Not the least of which is a base sticker below $12,500**—that's 1993 money—which gives the Sentra line the distinction of *"The Affordable Sports Sedan"* and means you should have cash left over for options like ABS brakes, a driver's-side air bag, a power sunroof and a CD stereo system. (Imagine, the average 2002 driver was probably listening to "Having My Baby" on an 8-track.)

About now you're thinking, "O.K., the SE-R is looking like a worthy successor to the 2002 on paper, and I'm glad 8-tracks are history, but how does it drive?"

Well, let's just say that when the EPA guys reported fuel economy of 24 city/32 highway mpg† they probably weren't taking advantage of the SE-R's 0-60 time of 7.6 seconds.* Or its responsive power-assisted rack-and-pinion steering. Or its sport-tuned suspension. All of which helped earn the SE-R a spot on *Car and Driver's*†† Ten Best list three years in a row and prompted its editors to write, "Even if you have all day to get from point A to point B, the SE-R will have you driving as if you were running very late." (Of course, for safety's sake, we heartily recommend driving as if you're maybe three or four minutes early.)

Speaking of safety, it may be reassuring to know that the Sentra, like the 2002, is built like a tank. In fact, it received one of the National Highway Traffic Safety Administration's best scores in the 1992 crash test program for cars in its category.

But back to more pleasant subjects. Like the thought of slipping the close-ratio shifter into gear, and gobbling up your favorite stretch of road behind the wheel of your Sentra.

Oh, and another thing to consider: when you pull over for lunch at your favorite roadside diner and a stranger calls your car "the BMW 2002 of the nineties," politely correct him.

"You mean the 2002 was the SE-R of the sixties."

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*Nissan Motor Corporation U.S.A. For information, call 1-800-NISSAN-6. Smart people always read the fine print. And they always wear their seat belts. *Source: Car and Driver, Aug. 1992. **M.S.R.P. for Sentra SE-R excluding taxes, title, license, destination charges and options. † 1993 EPA estimates with 5-speed. Use estimates for comparison. Your mileage may vary. †† Source: Car and Driver, Jan. '91, '92, '93.*

MOTOR TREND

# MERCEDES-BENZ 600SEC

## ROAD TEST

### A 12-CYLINDER SYMPHONY IN SIX-FIGURE TIME

by Bob Nagy

PHOTOGRAPHY BY JERRY GARNS

As car people, we've all become increasingly well versed in the concept of niche marketing. But when you're dealing with a vehicle like the new Mercedes-Benz 600SEC—and its equally new and exclusive 500SEC and 600SL runningmates—the mission takes on a markedly different character. That approach has been dubbed "sliver marketing" by the good spin doctors at Mercedes. Simply put, it's the result of laser-cutting a slice of the ultra-luxury segment so thin you can practically see through it. With its $132,000 pricetag (plus $3700 gas-guzzler tax), the V-12-powered 600SEC is definitely not for the masses. In fact, the demographic creme de la creme that constitute its U.S. target audience numbers only about 500 of the country's most affluent individuals. If, for some strange reason, you're not currently residing in that particular rarefied strata, we submit it's time to embark on an all-out effort to locate that eccentric but incredibly wealthy and generous long-lost uncle.

Just what does one get for the price of admission besides the aforementioned 12-cylinder engine cocooned in an elegant four-passenger coupe body? Well, let's start out by noting there's only one option, a glass moonroof to replace the regulation metal sunroof. Everything else is included: a seemingly endless roster of power standards, dual airbags, hands-free cellular phone, dual-glazed side windows, ABS, adaptive suspension damping, and a premium Bose sound system with six-pack CD changer are but a few of the highlights.

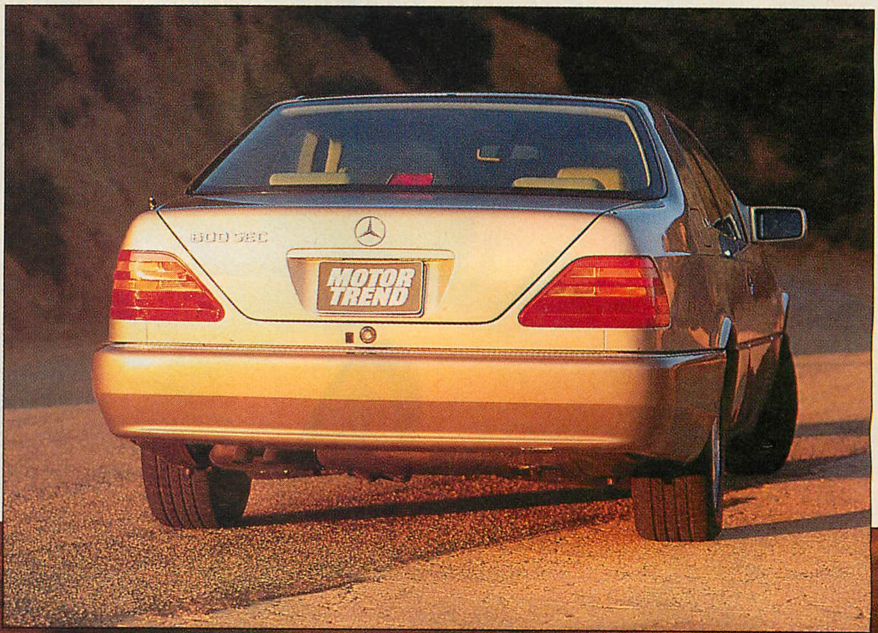
Although it bears an unmistakable family resemblance, the SEC shares no common body panels with S-Class four-doors. Its sleek yet powerful high-waist design has been aerodynamically optimized to yield a 0.31 Cd. The decision to eliminate the B-pillar and opt for frameless doors presented a formidable structural challenge to the M-B engineers. They proved well up to the task. Overall strength and rigidity were enhanced further through the use of bonded-in front and rear glass. At first glance, the coupe's leather-swathed and walnut-trimmed interior has the look and feel of other S-Class cars. But in truth, only the dash is actually culled from the senior sedan line. All other appointments are specific to the SEC.

Save for requisite fine-tuning, the 600SEC's underpinnings are identical to those of other S-Class cars. Front double wishbones are teamed with a multilink rear axle, each supported by coil springs, gas-charged shocks, and a stabilizer bar. To maximize isolation, this hardware bolts directly to subframes fore and aft. The finishing touches come in the form of standard adaptive damping with Sport and Comfort settings plus rear auto leveling.

The 600SEC's powertrain is lifted intact from its four-door counterpart. The 48-valve all-alloy 6.0-liter DOHC V-12 features Bosch LH-type electronic fuel-injection, variable valve timing on the intake side, and M-B's proprietary ultrafast CAN data bus that permits high-speed interfacing between all monitored systems. Output is a heady 389 horsepower at 5200 rpm and 420 pound-feet of torque at 3800 rpm. Linked to an electronically controlled four-speed automatic transmission and carrying 12/16 mpg city/highway EPA numbers, it propels this 5075-pound Grand Teuton 0-60 mph in 6.5 seconds and 0-100 mph in just 15.4 ticks, and gives it a factory-limited top end of 155 mph. Massive four-wheel vented ABS disc brakes with computer-controlled front/rear proportioning proved fully the equal of its potent drivetrain, helping stop our SEC from 60 mph in 123 feet.

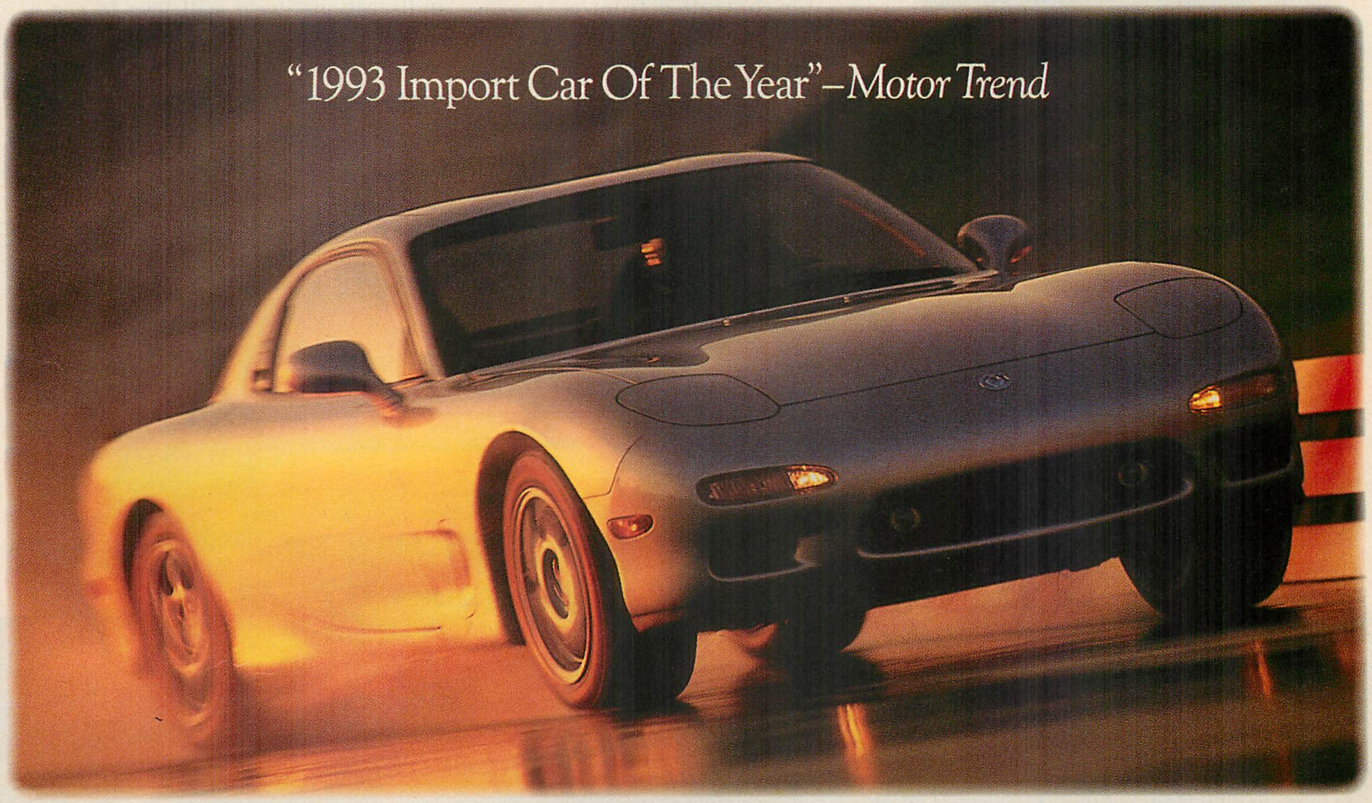
In the real world, this magnum Mercedes displayed the same level of thoroughbred competence. Although hardly the kind of vehicle one tosses about with wild abandon, a 53/47-percent weight split helps the 600SEC negotiate even the most serpentine twisties with a competence that belies its considerable mass and 115.9-inch wheelbase. While P235/60ZR16 Pirelli P600 tires strike a laudable balance between bite and compliance, we think some slightly wider rubber would add to the basic motoring experience without compromising ride quality. And despite its ability to keep the overly enthusiastic from committing some megadollar indiscretions, we'd still love to see a defeat switch for the traction control system. The SEC's variable-assist re-

Masterfully trimmed in soft leather and fine burled walnut, the 600SEC's luxuriously appointed interior offers passengers just about every imaginable creature comfort.



# We're slowing down just enough to pick up the award.

**The Mazda RX-7** When the editors of *Motor Trend* named the Mazda RX-7 "Import Car of the Year," they may have also considered it for another award: "the least time spent in the *Motor Trend* parking lot." What made the RX-7 a car that rarely got a chance to cool down? Extraordinary engineering, superb handling, plus a better power-to-weight ratio than the Acura NSX. The exclusivity of the world's only sequential twin-turbo rotary engine. And a zero-to-sixty time of 4.9 seconds didn't hurt. But the clincher was the concept behind the RX-7: the thrill that comes from driving a lightweight car with a lot of power. A pure sports car. The kind no one else makes. And Mazda makes more sports cars than anyone. So don't just sit there. Put down this ad and go to your Mazda Dealer. It's one of the few places you'll find the RX-7 standing still.


"1993 Import Car Of The Year"–*Motor Trend*

mazda

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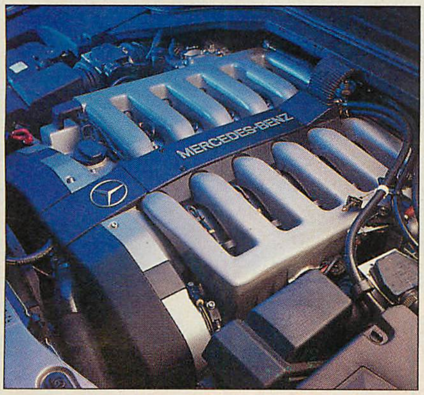
circulating-ball steering is the only other item that drew mixed reviews. Also borrowed from the S-Class parts bin, it affords good feedback at higher velocities, but exhibits a fair bit of on-center deadness along with a mildly disconnected feel at lower speeds. These minor criticisms notwithstanding, our 600SEC test car never wanted for drivers.

Throughout its history, Mercedes-Benz has done an unparalleled job in creating a long line of prestigious low-volume specialty cars. Boldly following in the tire tracks of such legendary offerings as the original 300SL and the 6.9 sedan, the new 600SEC seems ready to write its own illustrious chapter in that ongoing saga. A pity so few will have the opportunity to experience it firsthand. **MT**



With gobs of power and torque right up to its 6000-rpm redline, Mercedes' awesome all-alloy DOHC V-12 gives this luxury coupe bona fide supercar performance.

## SECOND OPINION

Yes, the 600SEC costs a great deal of money, and no, it's not the threefold improvement over, for example, a Lexus coupe that the price suggests. But the cost/benefit ratio won't pose much of a purchase obstacle to the people who will seriously consider this Mercedes-Benz. Those who reside in the loftiest levels of society are well accustomed to paying a lot more money to receive incremental improvements in quality and luxury. That's how quality works in all things, after all: The farther up the scale you push, the progressively greater the cost. The 600SEC sits at the top of that quality curve, delivering a level of splendid extravagance unavailable in lesser cars (a large group composed of virtually every other car in the world). That makes the 600SEC's position in the marketplace both unique and secure. *—Jeff Karr*

# TECH DATA

## Mercedes-Benz 600SEC

### GENERAL

| | |
|---|---|
| Make and model | Mercedes-Benz 600SEC |
| Importer | Mercedes-Benz of North America, Inc., Montvale, N.J. |
| Location of final assembly plant | Sindelfingen, Germany |
| EPA size class | Compact |
| Body style | 2-door, 4-passenger |
| Drivetrain layout | Front engine, rear drive |
| Base price | $132,000 |
| Price as tested | $132,400 |
| Options included | None |
| Ancillary charges | Destination, $400, gas-guzzler tax, $3700 |
| Typical market competition | Nothing on the planet, Bubba |

### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 115.9/2945 |
| Track, f/r, in./mm | 63.1/62.0/1603/1576 |
| Length, in./mm | 199.4/5065 |
| Width, in./mm | 75.31912 |
| Height, in./mm | 57.1/1451 |
| Ground clearance, in./mm | N/A |
| Manufacturer's base curb weight, lb | 5075 |
| Weight distribution, f/r, % | 53/47 |
| Cargo capacity, cu ft | 14.2 |
| Fuel capacity, gal | 26.4 |
| Weight/power ratio, lb/hp | 12.3 |

### ENGINE

| | |
|---|---|
| Type | V-12, liquid cooled, cast aluminum block and heads |
| Bore x stroke, in./mm | 3.50 x 3.16/ 89.0 x 80.2 |
| Displacement, ci/cc | 365/5987 |
| Compression ratio | 10.0:1 |
| Valve gear | DOHC, 4 valves/cylinder |
| Fuel/induction system | Mulitpoint EFI |
| Horsepower | |
| hp @ rpm, SAE net | 389 @ 5200 |
| Torque | |
| lb-ft @ rpm, SAE net | 420 @ 3800 |
| Horsepower/liter | 65.0 |
| Redline, rpm | 6000 |
| Recommended fuel | Unleaded premium |

### DRIVELINE

| | |
|---|---|
| Transmission type | 4-speed auto |
| Gear ratios | |
| (1st) | 3.87:1 |
| (2nd) | 2.25:1 |
| (3rd) | 1.44:1 |
| (4th) | 1.00:1 |
| Axle ratio | 2.64:1 |
| Final-drive ratio | 2.65:1 |
| Engine rpm, 60 mph in top gear | 2050 |

### CHASSIS

| | |
|---|---|
| **Suspension** | |
| Front | Upper and lower control arms, coil springs, anti-roll bar |
| Rear | Multilink, coil springs, anti-roll bar |
| **Steering** | |
| Type | Recirculating ball, power assist |
| Ratio | 14.6:1 |
| Turns, lock to lock | 3.2 |
| Turning circle, ft | 39.0 |
| **Brakes** | |
| Front, type/dia., in. | Vented discs/12.6 |
| Rear, type/dia., in. | Vented discs/11.8 |
| Anti-lock | Standard |
| **Wheels and tires** | |
| Wheel size, in. | 16 x 7.5 |
| Wheel type/material | Cast aluminum |
| Tire size | 235/60ZR16 |
| Tire mfr. and model | Pirelli P600 |

### INSTRUMENTATION

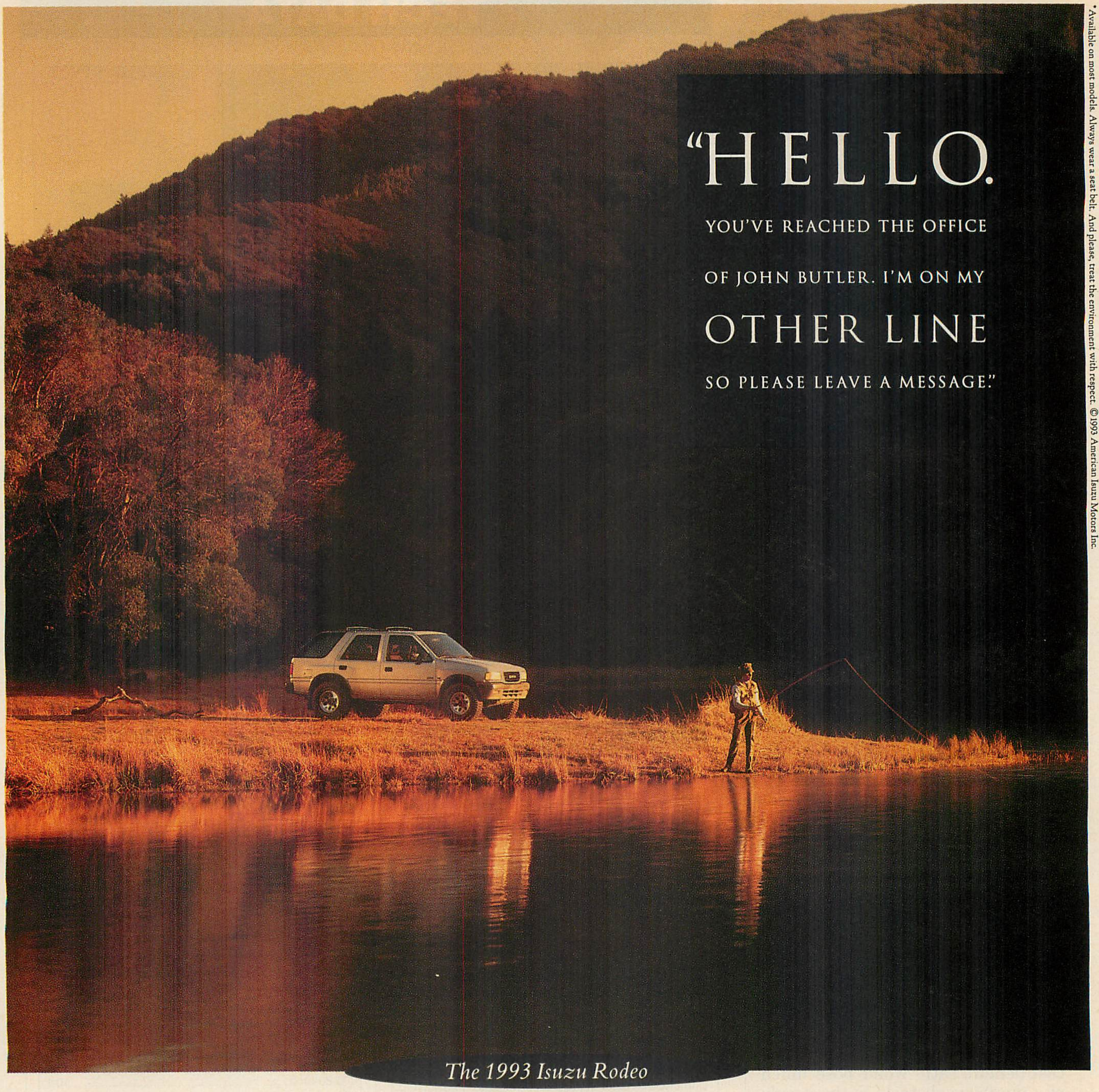
| | |
|---|---|
| Instruments | 160-mph speedo; 7000-rpm tach; fuel level; coolant temp; oil pressure; instantaneous mpg; analog clock |
| Warning lamps | Oil; battery; coolant level; check engine; brake; ABS; airbag; belts; traction control; washer fluid; shocks |

### PERFORMANCE AND TEST DATA

| | |
|---|---|
| Acceleration, sec | |
| 0-30 mph | 2.8 |
| 0-40 mph | 3.8 |
| 0-50 mph | 5.0 |
| 0-60 mph | 6.5 |
| 0-70 mph | 8.1 |
| 0-80 mph | 10.1 |
| Standing quarter mile sec @ mph | 14.8 @ 97.6 |
| Braking, ft | |
| 30-0 mph | 33 |
| 60-0 mph | 123 |
| Handling | |
| Lateral acceleration, g | 0.77 |
| Speed through 600-ft slalom, mph | 61.2 |
| Speedometer error, mph | |
| Indicated | Actual |
| 30 | 29 |
| 40 | 39 |
| 50 | 48 |
| 60 | 58 |
| Interior noise, dBA | |
| Idling in neutral | 45 |
| Steady 60 mph in top gear | 65 |

### FUEL ECONOMY

| | |
|---|---|
| EPA, city/hwy.,mpg | 12/16 |
| Est. range, city/hwy., miles | 317/422 |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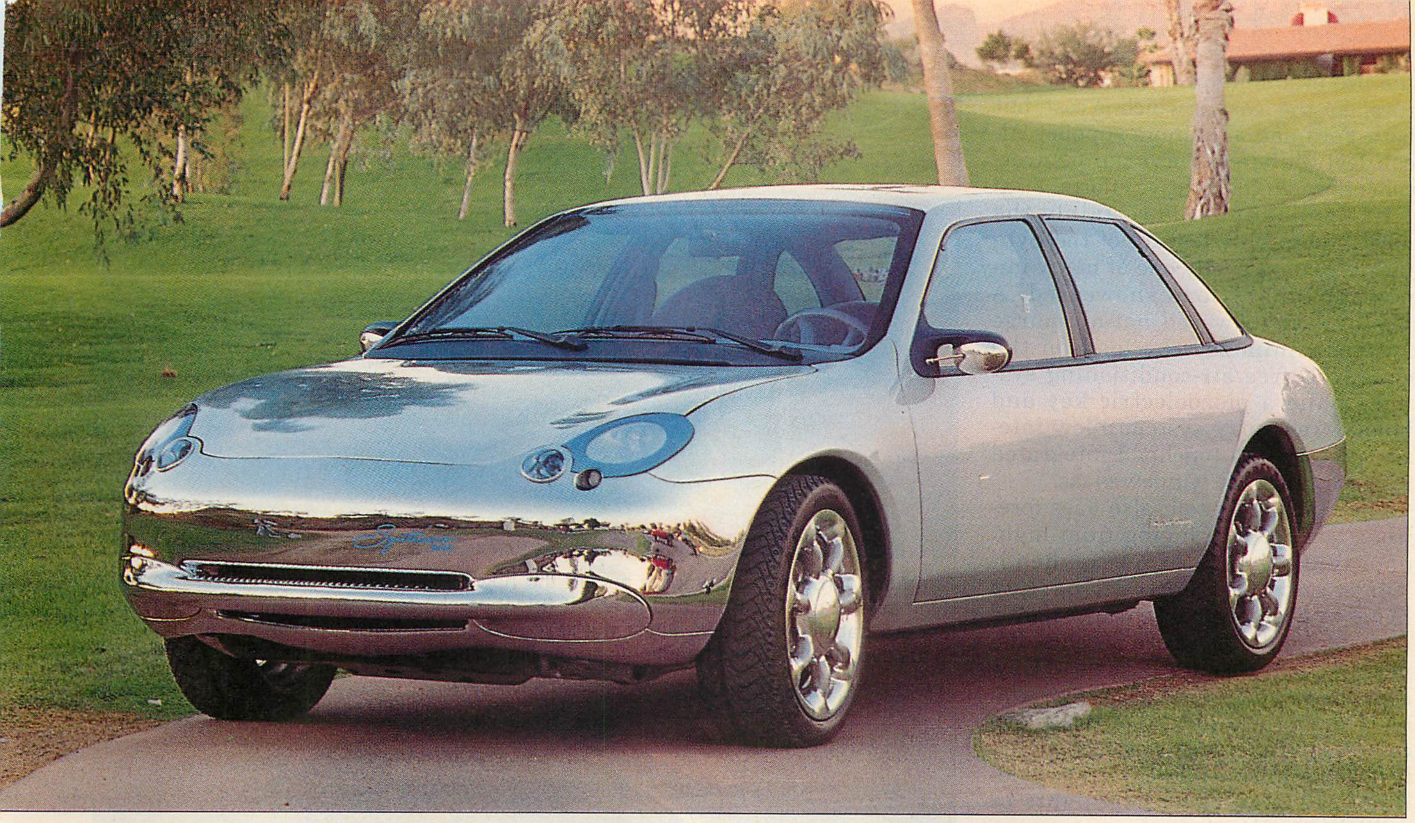


# Ford Synthesis 2010

**DRIVING IMPRESSION**

## ON THE ROAD TO A GREEN FUTURE

by Ron Cogan

PHOTOGRAPHY BY DAVID A. GAUTREAU/ THE CONTROL ROOM

The car we're powering through Turn 3 is half form, half function, and half again a purposeful exercise in future design. The math isn't wrong. It's just that Ford has given 150 percent to the Synthesis 2010, its innovative concept vehicle, and dedication should be recognized. It progressed from concept to completed testbed vehicle in record time, with 12 man-years of analysis amassed in just six short months, courtesy of computer modeling and team-intensive systems development.

Allowing a concept vehicle to be tossed around Firebird International Raceway in Phoenix, Arizona, is a sign of amazingly good faith and confidence in a product. "Just drive it like you would a family sedan," the engineers said. They evidently don't know how we drive family sedans at *Motor Trend*.

A surprising amount of power is supplied by the smallish 1.2-liter two-stroke engine residing beneath the abbreviated hood. The same powerplant undergoing limited fleet testing by Ford of Europe, this variant has received the addition of exhaust-gas recirculation and some engine control recalibration by Orbital. While it does get buzzy at higher rpm and suffers from mild injector clatter at idle, it offers good throttle response and more refinement than we expected from a current two-stroke example. Handling also is impressive for an experimental automobile, with well-mannered cornering and predictable steering.

As we pilot this earth-bound, aluminum-skinned future vision through turns and straightaways on this track, we're well aware of the message Ford is sending: The same material favored by Carroll Shelby's Cobras a generation ago, and Acura's NSX supercar now, could someday be used for mass-produced, lightweight body shells and frame structures to decrease curb weight and increase performance and economy. High-profile concept cars built mostly of aluminum indicate the industry's interest in exploring more widespread use of the alloy. Ford's Synthesis 2010 is pushing the envelope by showcasing not only an all-aluminum (right down to its brake rotors) automobile based on the Ford Taurus/Mercury Sable platform, but experimental technologies that should come to market by, coincidentally enough, perhaps the year 2010.

Ford already is the largest aluminum component manufacturer of all the car companies, annually producing 350,000 aluminum hoods for the Mercury Grand Marquis, Ford Crown Victoria, and Lincoln Town Car. Aluminum radiators are used in 95 percent of all Ford models, and 500 pounds of the alloy are integrated into the new Lincoln Mark VIII. The next-generation Taurus also is expected to feature aluminum fenders, hoods, and decklids. The auto maker's developmental work with aluminum has produced a welding and bonding process that creates stiffer and lighter aluminum structures than previously were possible, helping make complete aluminum automobiles more plausible for the near future.

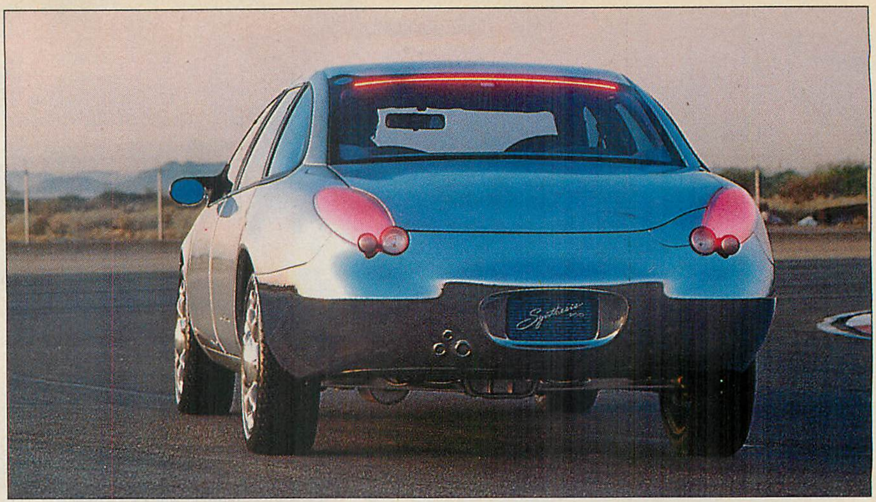
To its credit, aluminum enjoys an extensive recycling infrastructure that can expand to handle large numbers of aluminum-bodied cars. This is important not only in containing waste, but also in conserving resources because the energy required to manufacture aluminum drops 80 percent when reusing the alloy. Another benefit of aluminum is an infinitely closer relationship to steel than that of plastics, allowing a degree of familiarity to those destined to stamp parts and build cars with it. There are downsides to the use of aluminum in car manufacture, not the least of which is cost, but both Ford and aluminum-supplier Alcan feel confident these can be overcome through cooperative efforts.

While aluminum is certainly the most high-profile feature of the Synthesis 2010, it's only one of many important innovations showcased. A photovoltaic-powered hot-air purge system minimizes the load on the car's CFC-free air-conditioning system, while a piezoelectric key and handle-free entry system allow interior access via a touchpad integrated into the car's side window glass.

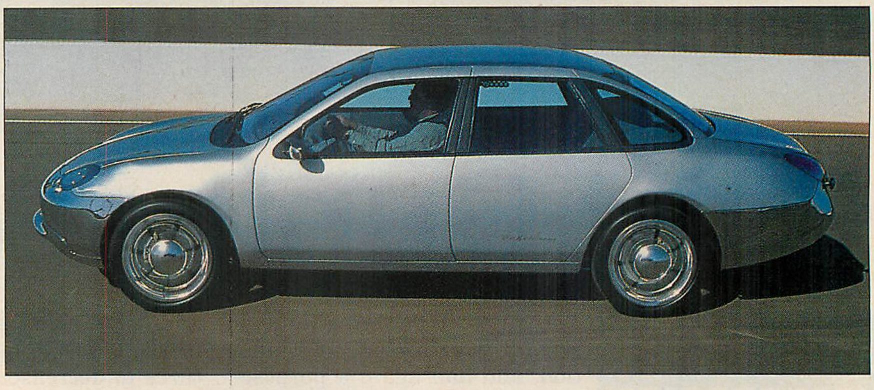
The lighting system also uses forefront technology ranging from high-energy discharge projector headlights and fiber-optic-lit backup lights to neon discharge brake lights, running lights, and turn signals. Especially interesting is a new Dow Plastics polymeric reflective material used over the lights. Its reflective qualities effectively hide the lights beneath a mirror-like covering, lending an illusion of no headlights or taillights on the car.

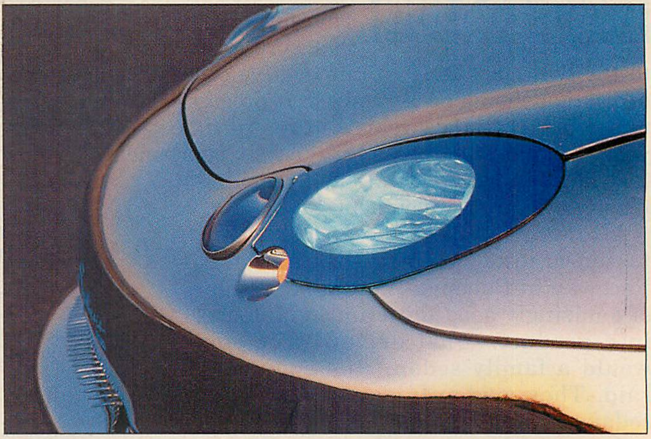
The interior is intended to be minimal and technical, with an array of future twists ranging from a portable voice-activated cellular phone to stalk-mounted controls for the car's stereo and onboard navigation systems. Like the cellphone, the mini-CD player and rear-seat Nintendo also are available for use outside the car. The instruments incorporate a special backlit display with neon pointers for enhanced readability.

The Synthesis 2010 is an eye-opening look at some of the sophisticated technologies we're likely to see in coming years. But it's foremost a statement in favor of the aluminum automobile. There probably will be an array of innovative materials and processes used in the all-out effort to shave vehicle weight in future car models. As Ford illustrates here, aluminum may be the lightweight contender that first finds widespread use for complete body and chassis structures. MT



Chromed carbon-fiber bumpers accent the new PPG urethane paint on the aluminum Synthesis 2010. The front end is about 6 inches shorter than a standard Taurus' and lends a cab-forward look, while the rear end seems to hint at an Avanti influence. Reflective plastic makes headlights and taillights appear to blend into the body.





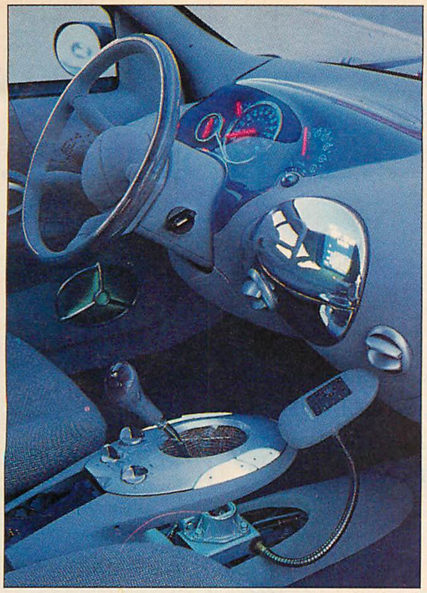
The new reflective material by Dow is 58 percent transmissive and 42 percent reflective, lending a high-tech look while allowing an adequate degree of high-intensity-discharge headlight beams to shine through. The same PRM material is used for the balance of the lighting system.

## SIZING UP THE TWO-STROKE

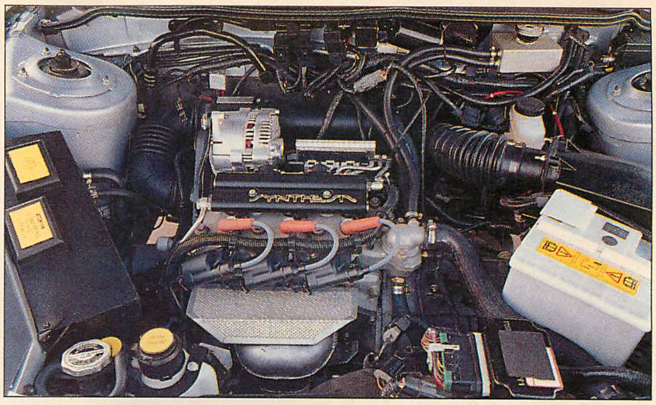
We went to England to drive one of the two-stroke Fiesta subcompacts currently undergoing road trials by Ford of Europe, and found that Ford's Orbital engine is surprisingly close to salable. This modern Ford two-stroke is a real auto engine: gasoline-fed, smoke-free, and full of punch. It displaces 1.2 liters in three inline cylinders and develops 80 horsepower at a peak rpm of 5500, about 10 percent more power than an equivalent-displacement four-stroke engine at 100 pounds less weight.

Unlike a traditional four-cycle, every revolution of a two-cycle engine produces power. The two-stroke combustion cycle exhausts burned gasses at the same time it's drawing in a fresh charge of air, eliminating the conventional valvetrain, along with its weight and complexity. The Orbital's water-cooled crankcase and cylinder heads are lightweight aluminum, and the oil is injected automatically into the intake charge from its reservoir, so an oil pan and filter aren't required.

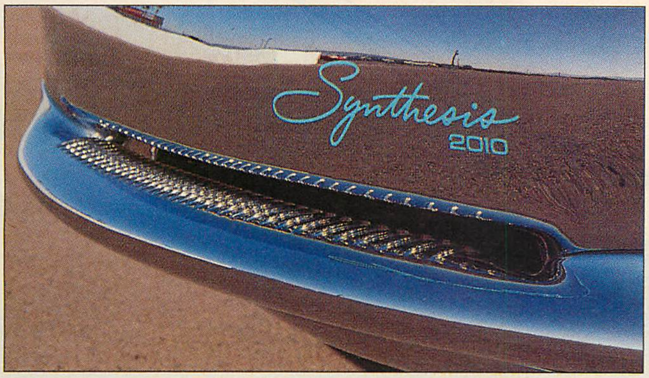
The engine had all the cues we associate with a performance powerplant, plus robust acceleration and a pleasant engine sound. It produces about 98 pound-feet of torque at 3800 rpm, but the curve is impressively flat. Shift it into fifth gear at 15 mph, and the car will



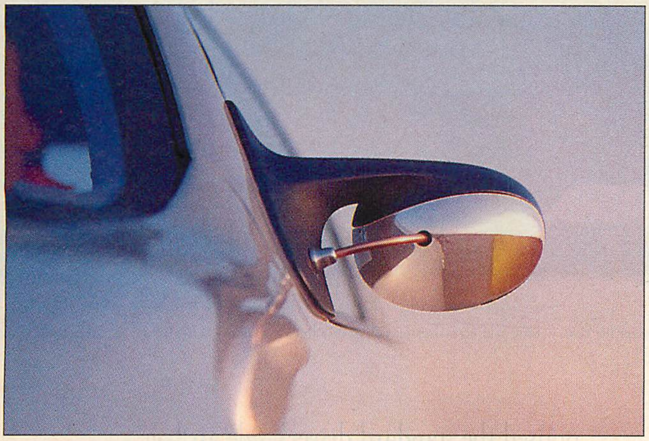
At the center of the dash is a color display secreted beneath what appears to be a chromed panel. Turn on the CRT screen, and a host of navigation functions magically appear through the reflective surface. The effect is almost holographic.



Motivation is supplied by a Ford two-stroke motor built under license to Orbital Engine Corporation. The tiny, 1.2-liter 3-cylinder aluminum engine supplies a surprisingly copious amount of power that allows the Synthesis 2010 to perform much better than we expected.



Highly polished 18x7.0-inch cast magnesium Minilite-style wheels and Goodyear 225/45R18 tires are the perfect accompaniment to this shining example of future cars. Goodyear P205/55SR16 Eagle GAs on more conventional wheels were used during actual track testing.



Side mirrors offer both a unique design and function. Polymeric reflective material disguises each mirror assembly's neon turn signal, which works in concert with other high-tech lighting features to help give the Synthesis 2010 a high profile at night. Copper tubing lends an interesting touch.

just trundle away without a hint of abusive lugging. It starts getting boomy when you take it up to redline, but there it shifts cheerfully and continues to pull strongly afterward. In addition to the decent performance, Ford expects a 10 to 12-percent improvement in fuel economy with this engine, which will be built initially by Orbital-Walbro Company in Tecumseh, Michigan.

For all its potential, a significant hurdle—emissions durability—still needs to be addressed fully before this or any other modern two-stroker will see duty in the American market. While the latest iterations show a great deal of promise, there remains the issue of certifying emissions at 100,000 miles and a problem of variability from one engine to the next. Bottom line: To date, no manufacturer actually has certified a vehicle for sale here, although we certainly expect to see some action on that front in the reasonably near future.

*—Daniel Charles Ross*

## TECH DATA

### Synthesis 2010

#### GENERAL/POWERTRAIN

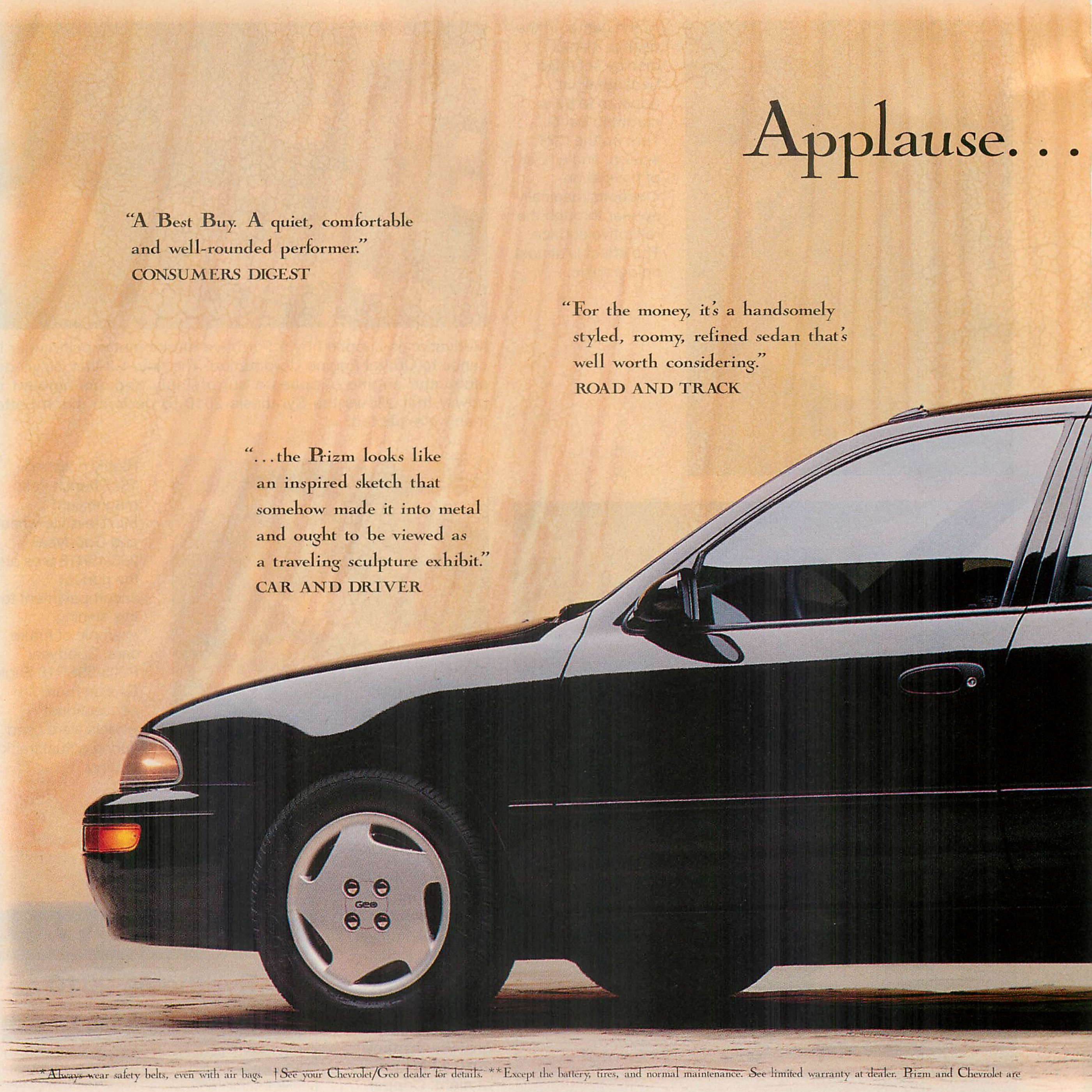
| | |
|---|---|
| Body style | 4-door, 4-passenger |
| Vehicle configuration | Front engine, front drive |
| Engine configuration | Inline 3, two-stroke |
| Engine displacement, ci/cc | 73/1197 |
| Horsepower, hp @ rpm, SAE net | 80 @ 5000 |
| Torque, lb-ft @ rpm, SAE net | 91 @ 3600 |
| Transmission | 5-speed manual |
| Axle ratio | 4.27:1 |

#### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 106.0/2692 |
| Length, in./mm | 187.0/4750 |
| Curb weight, lb | 2250 |
| Fuel capacity, gal | 10.0 |

#### CHASSIS

| | |
|---|---|
| Suspension, f/r | MacPherson struts/struts |
| Steering | Rack and pinion, power assist |
| Brakes, f/r | Vented discs/vented discs |
| Wheels | 18 x 7.0 cast magnesium |
| Tires | 225/45R18 Goodyear |



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CAR AND DRIVER

## Introducing The Newest Geo, Geo Prizm.

Excuse us while we take a bow. In the meantime, why don't you get to know the new Geo Prizm? A car so well-thought-out and so well-designed, it's bringing the critics to their feet. In article after article, automotive journalists cheered Prizm's aerodynamic new look, pointed out its available anti-lock brakes and praised the standard driver's-side air bag.*

Behind the wheel, they whistled at the 16-valve dual overhead cam engine and 4-wheel independent suspension, marveled at Prizm's smooth, quiet ride and quick response, and made themselves at home in Prizm's comfortable cabin. Did they mention Prizm's great gas mileage: an EPA est. MPG

*Always wear safety belts, even with air bags. †See your Chevrolet/Geo dealer for details. **Except the battery, tires, and normal maintenance. See limited warranty at dealer. Prizm and Chevrolet are

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"Lovely lines... Lexus refinement."
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MOTOR TREND

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# TOYOTA LAND CRUISER

by Rik Paul

PHOTOGRAPHY BY
SCOTT KILLEEN

**ROAD TEST**

### A NEW ENGINE POWERS ITS UPWARD MOBILITY

Not so long ago, there was a time when men were men and trucks were trucks. And one of the most rugged, go-anywhere, "damn-the-terrain" vehicles of them all was the Toyota Land Cruiser. It could be found forging through the jungles of Borneo, tackling the Australian outback, and trekking the perimeter of Kilimanjaro. It wasn't particularly inviting, and it certainly wasn't pretty. Nevertheless, this Spartan, stone-reliable adventurer built a small, fiercely loyal following. Although its 6000 or so annual sales were enough to keep Toyota interested in bringing the vehicle to American shores, in terms of technological upgrades, the Land Cruiser seemed almost forgotten in the shadow of the 4Runner.

Then for '91, the Land Cruiser was reincarnated into an upscale member of the new four-wheel-drive elite, with contemporary styling, roomier dimensions, plush coil-spring suspension, full-time four-wheel drive, optional leather, and a host of other pampering features. The transition was impressive, except for one item conspicuously absent from the package: power. The new version was built for comfort, not for speed.

Finally, for '93, Toyota has completed the Land Cruiser's renaissance with a new 4.5-liter DOHC 24-valve inline six. Its 212 horsepower and 275 pound-feet of torque represent dramatic increases of 37 and 25 percent, respectively, over the old 4.0-liter. Within its class, only the V-8-powered Jeep Grand Cherokee and Chevy/GMC Suburban boast more output, and only the Jeep and Range Rover County LWB edge it out in 0-60-mph acceleration. It was just what the Land Cruiser needed to bring it fully into the realm of upscale respectability.

Starting from a dead stop, the engine still requires a moment to overcome the inertia of the Land Cruiser's 4760-pound curb weight. In fact, the Toyota's 10.8-second 0-60 time just matches that of the 190-horse Isuzu Trooper. However, once the Land Cruiser hits the meat of its powerband

—just above three grand—it delivers more than enough power to tackle highway passing or mountain roads with ease. It also gives the Land Cruiser a 5000-pound maximum tow rating.

A new four-speed electronically controlled automatic transmission makes the most of the engine's power, with smooth shifts and well-timed kickdown points. On one of our driving loops, this powertrain team hauled the Land Cruiser with impressive vigor, up a tight, twisty hill. Just when the vehicle seemed as if it might bog down through a couple sharp, steep turns, the tranny would kick down, the engine would rev up, and the power would come through in strong surges.

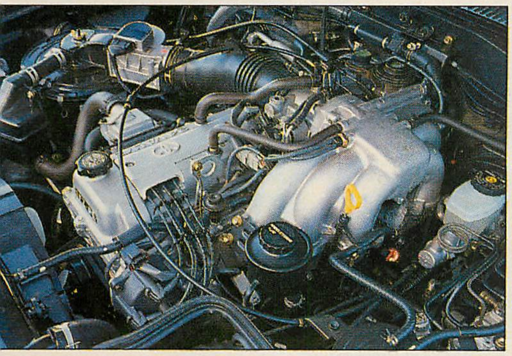
A full-time four-wheel-drive system provides an extra margin of traction, something we appreciated when we hit an occasional ice patch during our mountain drives. A two-speed transfer case offers high and low ranges, and for heavy-duty off-roading, locking front and rear differentials are optionally available. In fact, most Land Cruisers will never see anything close to the type of terrain the vehicle is capable of handling. Four-wheel anti-lock disc brakes give the Land Cruiser exceptional stopping power, illustrated by a remarkable 60-0-mph distance of only 128 feet, the best we've recorded on any sport/utility.

The vehicle's solid front and rear axles provide the rugged reliability for serious off-road excursions, yet the four-wheel coil-spring suspension delivers pleasant ride quality for day-in, day-out driving. While body roll is to be expected, front and rear anti-roll bars keep it well contained, as evidenced by the truck's impressive 58.8-mph slalom. Coupled with the responsive, communicative rack-and-pinion power steering, even the curviest roads are easily negotiable.

Inside, the Toyota offers enough space to establish a wilderness base camp. With an optional third row of seats, it'll carry up to eight people. Head room and front-seat leg room dimensions are among the best in its class, and the rear seats fold up sideways, as in the Previa. The Land Cruiser's 91.1-cubic-foot maximum interior cargo volume is eclipsed only by the Suburban and the Mitsubishi Montero, although with a third row of seats installed, this shrinks to a more average 75-cubic-foot capacity.

Overall, the Land Cruiser is just what you'd expect from Toyota. The fit and finish are first rate, noise and vibration are well isolated, and the vehicle exhibits an overall feeling of solidity. For its $31,178 base price, the Land Cruiser offers an array of standard features. Our tester was equipped with an optional $3790 leather trim package, which included leather seat upholstery, door panels, and miscellaneous trim, power front seats, a third rear seat, and tinted glass.

In fact, the $40,128 as-tested price brings the Land Cruiser almost within a CD changer's throw of a Range Rover. And while it doesn't have the burled walnut opulence of the British marque, Toyota's former cult hero certainly has become a worthy alternative.



A 212-horsepower 4.5-liter inline six-cylinder powerplant adds new life to Toyota's perennial 4x4. A pampering interior tames the wildest environments. Plus, an optional third row increases passenger capacity to eight and easily folds up for carrying cargo.

## TECH DATA

### Toyota Land Cruiser

#### GENERAL/POWERTRAIN

| | |
|---|---|
| Body style | 4-door, 8-passenger |
| Vehicle configuration | Front engine, four-wheel drive |
| Engine configuration | Inline 6, DOHC, 4 valves/cylinder |
| Engine displacement, ci/cc | 273/4477 |
| Horsepower, hp @ rpm, SAE net | 212 @ 4600 |
| Torque, lb-ft @ rpm, SAE net | 275 @ 3200 |
| Transmission | 4-speed auto. |
| Axle ratio | 4.10:1 |

#### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 112.2/2850 |
| Length, in./mm | 188.2/4780 |
| Curb weight, lb | 4760 |
| Fuel capacity, gal | 25.1 |
| Fuel economy, EPA city/hwy., mpg | 12/15 |

#### CHASSIS

| | |
|---|---|
| Suspension, f/r | Live axle/live axle |
| Steering | Recirculating ball, power assist |
| Brakes, f/r | Vented discs/discs, ABS |
| Wheels | 16 x 8.0 |
| Tires | 275/70R16 |

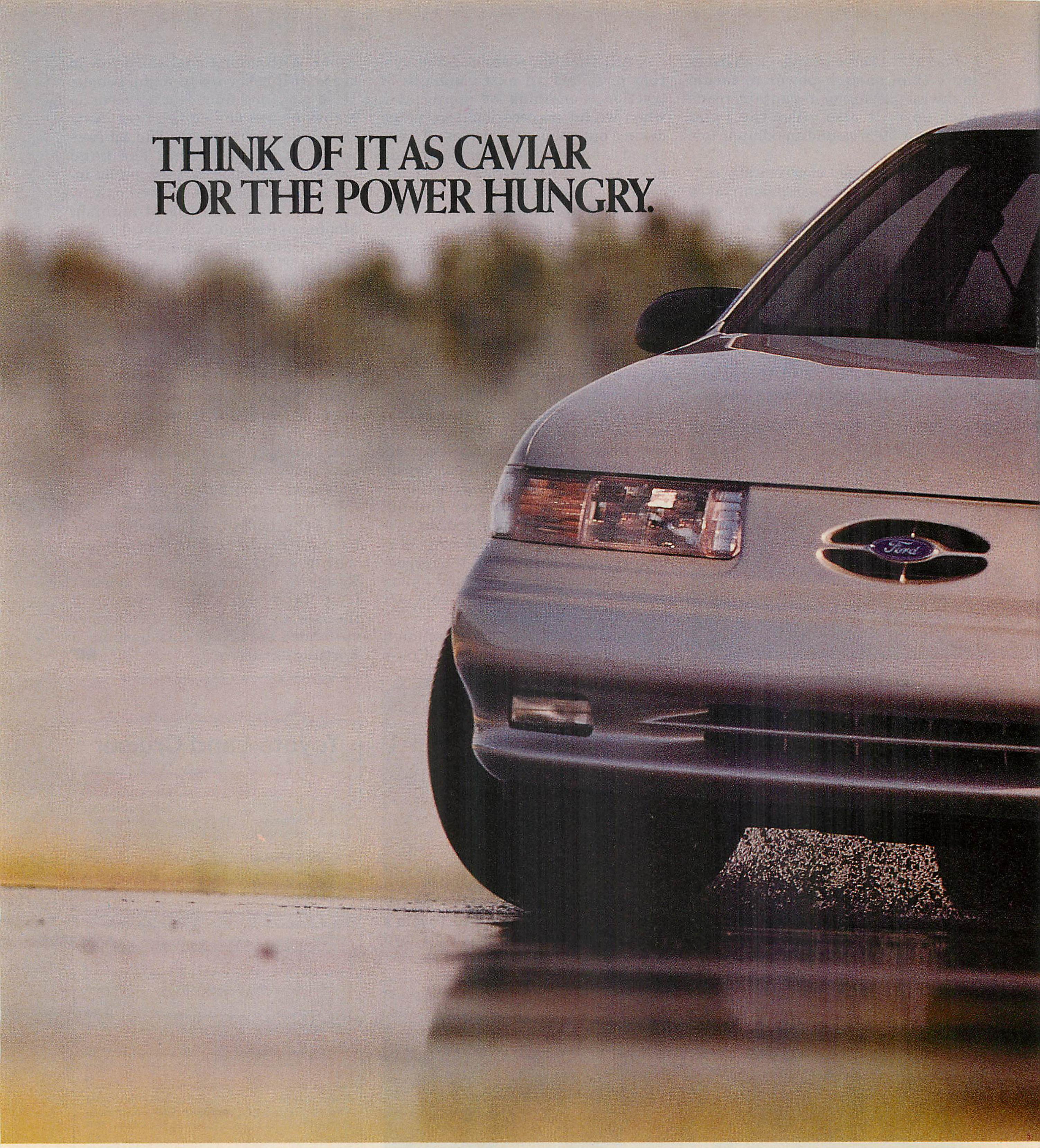
#### PERFORMANCE

| | |
|---|---|
| Acceleration, 0-60, sec | 10.8 |
| Quarter mile, sec/mph | 18.0 @ 76.7 |
| Braking, 60-0, ft | 128 |
| Slalom, 600-ft, mph | 58.8 |
| Skidpad, 200-ft, lateral g | 0.73 |

#### PRICE

| | |
|---|---|
| Base price | $31,178 |
| Price as tested | $40,128 |

TOYOTA LAND CRUISER
MOTOR TREND
LAND CRUISER



# FORD TAURUS
# SHO

**WITH AUTOMATIC TRANSMISSION.** If you crave power with more than a hint of sophistication, may we suggest the 1993 Ford Taurus SHO? With the new, uniquely engineered automatic transmission or the 5-speed manual, the Taurus SHO promises an unforgettable taste of the road.

Begin with the sequential fuel-injected 24-valve 220 horsepower V-6. This racing-type engine is ideally balanced by the 4-wheel

independent sport-tuned suspension, so you'll enjoy exceptional performance.

And since even the most adventurous palate has a conservative streak, the Taurus SHO has standard anti-lock brakes, a standard driver's air bag supplemental restraint system, and the option of a right-front passenger's side air bag. Air bags, in conjunction with properly worn safety belts, are one of the most effective restraint systems available. The Ford Taurus SHO. A perfect way to satisfy your appetite for power.

Buckle up—together we can save lives.

HAVE YOU DRIVEN A FORD LATELY?

# AUDI 90 CS QUATTRO SPORT

ROAD TEST

## A PRETTIER FACE ON A STRONGER BODY

by Ron Grable

PHOTOGRAPHY BY RICK GRAVES

The brilliant-red Audi 90 CS Quattro Sport looked a little out of place parked in front of Graceland: Everybody knows Elvis was a *Cadillac* kind of guy. Even so, he would've been able to appreciate the aggressive look of the newly styled Audi 90 lineup for 1993.

Audi introduced the new 90s to the press in Memphis, giving us the opportunity to sample some outstanding Tennessee back roads during the day and the magic of Beale Street Blues at night. Our outbound trip to the lunch turnaround was in the CS Quattro, which was perfectly suited to the task at hand: mostly two-lane country roads wandering over the rolling Tennessee hills.

Four-wheel drive provides exceptional traction under conditions that would leave front- or rear-drive vehicles with their tongues hanging out. During our time in the Quattro, we had the opportunity to explore its traction limits in a convenient rain shower and were impressed. The center Torsen differential is constantly shuffling torque between front and rear axles (varying from 50/50 to 75/25), depending on where the best grip is, but the process doesn't intrude on the driver's consciousness. Pushed to its limits—and beyond—the Quattro Sport never loses its composure. Steering isn't affected by what's going on at the contact patch, and the Audi always remains controllable and predictable over low-traction surfaces.

If traction is really atrocious, Audi provides an electronically lockable rear differential to get moving, which unlocks automatically at 6.5 mph. The unlock feature prevents the loss of stability that would occur if engine braking locked the rear axle on slippery surfaces.

On dry pavement, the Quattro is living proof that racing does indeed improve the breed. Audi's been successful with the Quattro concept in both SCCA Trans-Am racing (1988 Championship) and the prestigious German Touring Car Series, winning the Championship in 1990 and 1991. Touring-car racing is a fanatical passion for most Germans, and they attend in droves to watch their beloved Audis, BMWs, and Mercedes engage in this most fierce of battles. The series is so competitive that the organizers have instituted an interesting feature to maintain competitiveness between marques. The winner of each race is required to add 50 kilos (100 pounds) for the next race, which makes it increasingly hard to keep winning.

Audi racing successes have given the engineers a broad base of experience in how an all-wheel-drive vehicle interacts with the road. Drive the 90 Quattro at its limits on dry pavement and all those lessons learned in countless miles of intense racing development show up as a great-handling vehicle. At the limit, the Quattro slides in a controllable drift with slight understeer. It's easy to fine-tune the cornering attitude with throttle, because, unlike rear-drivers, the front tires develop a thrust vector in the direction they're pointed. In other words, after the car is turned into the corner, if the line is running wide, increasing the steering angle and throttle will help point the front of the car to the apex. Another bonus is that if you do it just right, you can't help but feel like Hans Stuck.

All three models of the '93 Audi 90 line showcase the new two-valve 2.8-liter 90-degree V-6 first introduced in the 100. It has a cast iron block and aluminum heads and a dual-length intake manifold that allowed Audi engineers to tailor the engine characteristics to the American market. U.S. driving styles favor good low-end torque, but Audi engineers didn't want to sacrifice the high-end power and responsiveness expected from a performance sedan. The dual-length intake manifold features six throttle plates (one in each runner) controlled by the engine management computer. Below 4100 rpm, the valves are closed, requiring incoming air to travel farther (in the smaller-diameter runners) to reach the combustion chamber. This accelerates the air and times its arrival in the combustion chamber for good cylinder filling at lower rpm. Above 4100 rpm, the computer opens all six valves, allowing the engine to breathe through a shorter, larger-diameter port for good power in the higher rpm range.

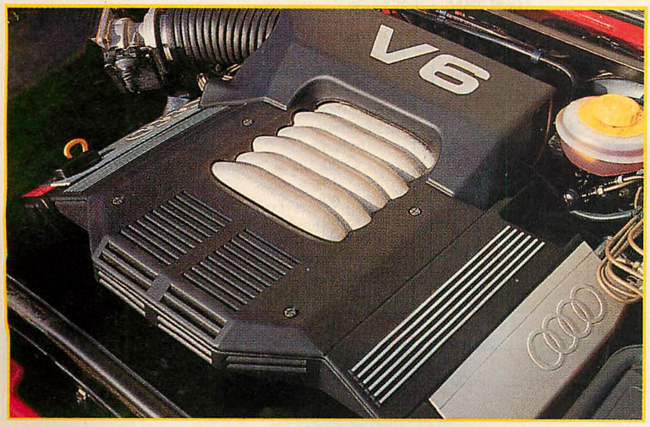
The new V-6 also uses sequential multipoint injection and electronic distributorless ignition to produce 172 horsepower at 5500 rpm and 184 pound-feet of torque at 3000. With the changeover valves in the intake, we were surprised the torque curve was so smooth, but it was difficult to detect the 4100-rpm transition point, even at full throttle.

In our instrumented test regimen of the CS Quattro, our best 0-60-mph run was 8.8 seconds, which puts it right in there with its competition. We didn't officially test an automatic-transmission CS model, but did get an impromptu run that produced 9.5 seconds 0-60. All manual transmission cars are equipped with a new dual-mass flywheel to smooth power pulses to the drivetrain. An optional four-speed automatic is offered (except in the Quattro) with electronic shifting control, and both Sport and Normal modes. On the skidpad, the Quattro generated a respectable 0.85 g, and did so in its inimitable four-wheel-drive manner, which is to say with moderate understeer and fairly low body roll. By comparison, the Acura Vigor managed 0.79 g, and the BMW 325i made 0.85 g. In the slalom test, which emphasizes quick transient behavior, the Quattro averaged 64.6 mph compared to 64.9 for the 325i and 64.5 for the Vigor.

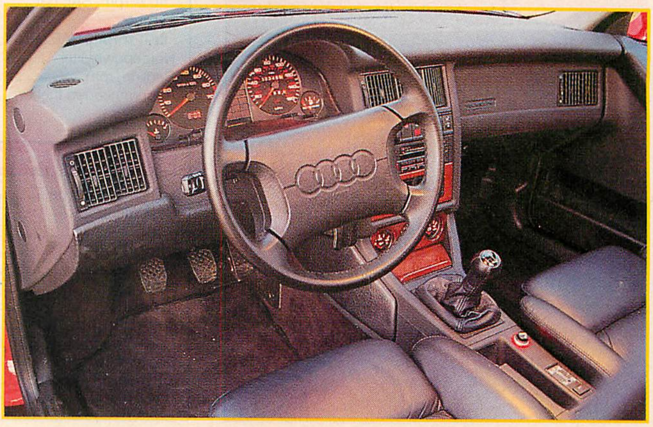
The '93 Audis are bigger than the '92 version: 1.6-inch-wider track, 2.6-inch-longer wheelbase, and 4.0 inches longer overall. More important, Audi engineers increased the torsional rigidity of the body by over 23 percent, in spite of incorporating split rear fold-down seats. With the seats down, there's plenty of room for a couple pairs of skis in the generous 25.0-cubic-foot trunk space. The extra rigidity is a result of reinforcing the transmission tunnel and floorpan, plus strengthening of the A and B pillars and gluing the roof panel onto the structure (in addition to the conventional spot welding).

All three models use strut front suspension with wide-based lower control arms. At the rear, the 90 S and CS use trailing arms linked through a transverse torsion bar, with coil-over spring/shock units and anti-roll bar. The Quattro rear suspension is a double wishbone setup, which optimizes wheel location with respect to body roll and goes a long way toward eliminating any unwanted dynamic steer from the rear wheels. The Quattro suspension is more sport oriented than the S or

MOTOR TREND



Although it has but two valves per cyliner, Audi's nifty, new 2.8-liter SOHC V-6 uses a computer-controlled dual-path intake manifold to ensure good power and torque throughout the engine's entire useable rev range.



Understated, yet comfortable, the 90 CS Quattro interior boasts real leather on its supportive seats and wood trim on the dash, plus highly legible white-on-black analog gauges and an abundance of high-efficiency ventilation ducts.

CS, with higher-rate springs, stiffer anti-roll bars, and more aggressive valving in the shocks.

The exterior is all-new for '93, and features a trapezoid (100-lookalike) grille, body-colored bumpers, and flared front fenders. The Quattro sits 11 millimeters lower than CS or S and has model-specific 10-spoke aluminum wheels with Dunlop D8 M2, 205/60VR15 radials.

The list of Audi luxury features is a long one and includes power and tilt sunroof, Kodiak leather seats (CS and Quattro), eight-way power driver's seat, wood-inlayed center console, automatic climate control, infrared central locking system, driver and passenger airbags, ABS, and Audi's patented seatbelt tensioning system. In a frontal impact, the engine and transmission package move rearward with respect to the rest of the chassis. This differential motion is used to tighten the front seatbelts through a series of cables running along the door sills beneath the carpeting.

As mentioned, the Audi 90s have to play in the BMW 3-series, Mercedes 190, and Acura Vigor arena. Audi has quoted a base price of $31,950 for the CS Quattro model, and the lower-level version should be a few thousand under that. The cars are competent, exceptionally quiet, and for '93, have contemporary styling. The marketplace will have to be the final judge of their success. *MT*

## SECOND OPINION

**It's hard to be an individualist anymore. Even the punks with blue hair and safety-pin nose jewelry now look like every other punk on the street. And when it comes to luxury cars, nowadays, the freeways are clogged with burgundy Lexus sedans and coupes. No question they're nice cars, but going with the flow is *boring*. How about a bright-red Audi 90 Quattro? It's not the same, old thing, this year bringing a bigger engine, more room, leather seats, and sensual exterior design to the fray. I want my car to be different in that respect, but I also want the safety and capable driving features available in the masses' cars. With the 90, I get it all: airbags, antilock brakes, decent handling, and good test track performance. The 90 Quattro, at $31,950, isn't the least expensive car in its class, but you get solid German quality and an excellent warranty, and in my book, that's a good value.**

***—B.J. Hoffman***

# TECH DATA

## Audi 90 CS Quattro Sport

### GENERAL

| | |
|---|---|
| Make and model | Audi 90 CS Quattro Sport |
| Importer | Audi of America, Inc., Auburn Hills, Mich. |
| Location of final assembly plant | Ingolstadt, Germany |
| Body style | 4-door, 5-passenger |
| Drivetrain layout | Front engine, all-wheel drive |
| Base price | $32,250 |
| Price as tested | $32,570 |
| Options included | All-weather package, $320 |
| Ancillary charges | Destination, $370 |
| Typical market competition | Lexus ES 300 Infiniti J30, BMW 325i |

### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 102.2/2597 |
| Track, f/r, in./mm | 57.0/58.1/1447/1476 |
| Length, in./mm | 180.3/4580 |
| Width, in./mm | 66.7/1695 |
| Height, in./mm | 54.7/1390 |
| Ground clearance, in./mm | 4.2/106 |
| Manufacturer's curb weight, lb | 3538 |
| Weight distribution, f/r, % | 52/48 |
| Cargo capacity, cu ft | 14.0 |
| Fuel capacity, gal | 17.4 |
| Weight/power ratio, lb/hp | 20.6 |

### ENGINE

| | |
|---|---|
| Type | 90° V-6, liquid cooled, cast iron block, cast aluminum heads |
| Bore x stroke, in./mm | 3.25 x 3.40/ 82.5 x 86.4 |
| Displacement, ci/cc | 169/2771 |
| Compression ratio | 10.3:1 |
| Valve gear | SOHC, 2 valves/cylinder |
| Fuel/induction system | Multipoint EFI |
| Horsepower | |
| hp @ rpm, SAE net | 172 @ 5500 |
| Torque | |
| lb-ft @ rpm, SAE net | 184 @ 3000 |
| Horsepower/liter | 62.1 |
| Redline, rpm | 6400 |
| Recommended fuel | Unleaded premium |

### DRIVELINE

| | |
|---|---|
| Transmission type | 5-speed man. |
| Gear ratios | |
| (1st) | 3.50:1 |
| (2nd) | 1.84:1 |
| (3rd) | 1.23:1 |
| (4th) | 0.94:1 |
| (5th) | 0.82:1 |
| Axle ratio | 3.89:1 |
| Final-drive ratio | 3.19:1 |
| Engine rpm, 60 mph in top gear | 2800 |

### CHASSIS

| | |
|---|---|
| **Suspension** | |
| Front | MacPherson struts, lower control arms, coil springs, anti-roll bar |
| Rear | Upper and lower control arms, coil springs, anti-roll bar |
| **Steering** | |
| Type | Rack and pinion, power assist |
| Ratio | 17.0:1 |
| Turns, lock to lock | 3.1 |
| Turning circle | 34.1 |
| **Brakes** | |
| Front, type/dia., in. | Vented discs/10.9 |
| Rear, type/dia., in. | Discs/9.6 |
| Anti-lock | Standard |
| **Wheels and tires** | |
| Wheel size, in. | 15 x 7.0 |
| Wheel type/material | Cast aluminum |
| Tire size | 205/60VR15 |
| Tire mfr. and model | Dunlop D8 M2 |

### INSTRUMENTATION

| | |
|---|---|
| Instruments | 160-mph speedo; 7500-rpm tach; fuel level; coolant temp; oil temp; oil pressure; volts; clock |
| Warning lamps | Battery; airbag; check engine; ABS; brake; seatbelts |

### PERFORMANCE AND TEST DATA

| | |
|---|---|
| Acceleration, sec | |
| 0-30 mph | 2.8 |
| 0-40 mph | 4.6 |
| 0-50 mph | 6.6 |
| 0-60 mph | 8.8 |
| 0-70 mph | 12.3 |
| 0-80 mph | 15.7 |
| Standing quarter mile | |
| sec @ mph | 16.7 @ 83.3 |
| Braking, ft | |
| 30-0 mph | 29 |
| 60-0 mph | 124 |
| Handling | |
| Lateral acceleration, g | 0.85 |
| Speed through 600-ft slalom, mph | 64.6 |

Speedometer error, mph

| Indicated | Actual |
|---|---|
| 30 | 29 |
| 40 | 39 |
| 50 | 49 |
| 60 | 59 |

| | |
|---|---|
| Interior noise, dBA | |
| Idling in neutral | 49 |
| Steady 60 mph in top gear | 70 |

### FUEL ECONOMY

| | |
|---|---|
| EPA, city/hwy., mpg | 17/22 |
| Est. range, city/hwy., miles | 296/383 |

# LONG-TERM UPDATE

BY B.J. HOFFMAN

## '92 HONDA ACCORD WAGON EX

| | | | |
|---|---|---|---|
| Base price | $20,925 | Additional oil/cost | None |
| Price as tested | $21,783 | Routine maint. | $188.84 |
| Total mileage | 16,077 | Additional maint. | None |
| Test mileage | 16,051 | Previous maint. | $104.76 |
| Fuel consumed | 672.7 gal | Problem areas | None |
| Fuel cost | $874.43 | Total oper. cost | $1168.03 |
| Average mpg | 23.9 | Oper. cost/mile | 7.3¢ |

This Honda never sits idle in the garage; its ability to haul plenty of cargo, along with a comfortable ride, make it a real staff favorite. We've had no niggling problems with the wagon, which is something we can't say about any of our other long-termers. Some logbook gripes relate to an automatic transmission that could shift more smoothly, and the horsepower could be upped a bit. But aside from those two things, we're pleased.

## '93 MAZDA RX-7

| | | | |
|---|---|---|---|
| Base price | $31,300 | Additional oil/cost | 1 qt/$2.66 |
| Price as tested | $34,790 | Routine maint. | $45.54 |
| Total mileage | 6457 | Additional maint. | None |
| Test mileage | 5956 | Previous maint. | None |
| Fuel consumed | 479.6 gal | Problem areas | Turbo boost loss |
| Fuel cost | $634.65 | Total oper. cost | $682.85 |
| Average mpg | 12.4 | Oper. cost/mile | 11.5¢ |

"Cash in my Corvette coupons," reads one entry in the RX-7 logbook. Every driver agrees the RX-7 gives great giggles. Before we took it in for its first service and oil change, the engine lost all boost. The dealer discovered a hose that had worked itself loose. It was fixed, and all is well again—no charge. Fuel mileage crept up a bit from 11.8, and the operating cost per mile climbed 0.2¢. The doors are still an effort to shut, but that's a small price to pay for so much enjoyment.

## '92 MAZDA 929

| | | | |
|---|---|---|---|
| Base price | $28,500 | Additional oil/cost | 1 qt/$1.99 |
| Price as tested | $33,070 | Routine maint. | Warranty |
| Total mileage | 8921 | Additional maint. | None |
| Test mileage | 8848 | Previous maint. | None |
| Fuel consumed | 445.8 gal | Problem areas | Abrupt throttle response |
| Fuel cost | $588.46 | Total oper. cost | $590.45 |
| Average mpg | 19.8 | Oper. cost/mile | 6.7¢ |

The 929 continues to get plenty of exercise from all staff members. We've had no additional problems, but are still unhappy with the abrupt throttle reponse. We're surprised at how much cargo the trunk holds; it can carry all our test gear and the fifth wheel and still have room for more. Average mpg dropped 1.7, and we added a quart of oil for $1.99. Next year, we hope Mazda will provide some cupholders and a real glovebox.

## '92 MECEDES-BENZ 500SEL

| | | | |
|---|---|---|---|
| Base price | $93,500 | Additional oil/cost | None |
| Price as tested | $97,790 | Routine maint. | $363.96 |
| Total mileage | 20,508 | Additional maint. | None |
| Test mileage | 18,826 | Previous maint. | $159.41 |
| Fuel consumed | 1038.9 gal | Problem areas | None |
| Fuel cost | $1365.76 | Total oper. cost | $1889.13 |
| Average mpg | 18.1 | Oper. cost/mile | 10.0¢ |

Next to our Ford Chateau Club Wagon, the 500SEL has been driven more miles than any other of our long-term cars. Whoever is going on a long trip grabs it. "Like driving your living room down the highway; ultra smooth and well isolated," remarked one staffer. At its last service, we aligned, balanced, and rotated the wheels and tires and replaced the front and rear bushings in the lower control arms. At 10¢ per mile, you're getting your money's worth.

*National gas average prices courtesy of Lundberg Survey, Inc., North Hollywood, California.*

## LONG-TERM WRAPUP

BY DANIEL CHARLES ROSS

# 1992 FORD ESCORT GT

## TAKE FIVE LAPS AND CALL ME IN THE MORNING

The Ford folks used their connections at Mazda to create the all-new '92 Escort GT, a powerful and good-looking display of high-performance fiscal responsibility. Need a mood enhancer? Say *nyet* to drugs and yes to a few laps in this little upper. It provides the same flush in your cheeks, without the debilitating physical revenge of chemicals.

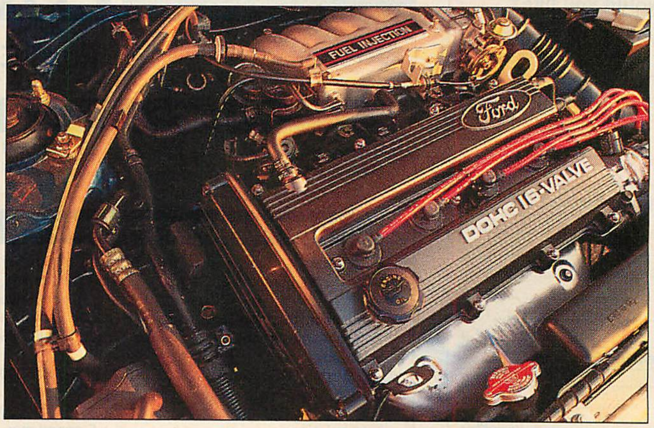
Our Cayman green long-term test car has sensational personality on the street. Like strong human personas, it has better-than-average good looks and a subtle aura of power. Its styling was executed by Ford designers working in Ford's own styling studios in Japan, and it adheres to the dictates of aerodynamics without the "cookie-cutter" appearance of some small Japanese sport coupes. According to the *MT* owner survey, many respondents bought their GTs specifically because of the unusual aqua color scheme, which extends to the detail of the interior trim, as well; in fact, 51.6 percent cited looks or style as the chief reason why they bought their GTs. But though people tend to notice the GT cruising down the *strasse*, its appeal is more than just skin deep.

The survey shows lots of the appeal was price. The Escort GT scores high on respondents' "bang for the buck" scale, with many comments on how much fun the car is to drive for a relatively inexpensive investment. A truck driver from Texas wrote, "I wanted a Taurus SHO, but I had to buy three cars—so I got my wife a Taurus LX and my daughter and I got an Escort GT each." Though the survey reported prices ranging from under $11,000 (5.7 percent) to over $15,000 (a tiny 1.7 percent), the average price of $12,797 was palatable for many buyers. At 27.2 percent, price was the second most popular reason for purchase. The price/performance ratio combined with other likes for 89.7 percent of respondents to say they would buy, or would consider buying, another Escort GT. "Every one of my friends calls me a showoff because they say I'm too old to have such a good-looking car [but] my sweetie just loves it," wrote an obviously well-satisfied 73-year-old owner from Denver.

The GT is fun to drive fast, and its roomy shape means it won't attract unwanted attention. Its test-track performance on our 200-foot diameter skidpad—a grippy 0.83 g—supports what we feel through our pant seats. However, when cornering at tire-howling velocities, the GT exhibits some drop-throttle oversteer, but that's virtually unavoidable in sporty front-

ESCORT GT
MOTOR TREND

Survey respondents complimented the Cayman decor group, which provided the bright-aqua paint scheme and trim. Many said it was the color that swayed them to buy. Inside, some respondents disliked the buckets over long distances. Though ergonomics are fine, no one liked the universally reviled motorized shoulder belts.



Mazda supplies the GT's *go-power*, 127 horsepower from a 1.8-liter twin-cam four-valve inline four. Over 61 percent of respondents opted for the five-speed stick, *like we did*, with over a third reporting the four-speed autobox. Stick cars averaged over 27 mpg in the city and almost 32 mpg on the *highway*.

drivers. Nonetheless, survey respondents flat out love how the GT handles as much as we do. "Excellent" or "good" responses were recorded for handling by 94 percent. "Took it to Big Bear," went a notation in the long-termer's logbook. "Handles great on curvy mountain roads."

The car's reason for being is to provide a lively place to have fun, and while it fulfills this purpose, we and the survey hope for improved performance in future models. While 94 percent gave the car excellent or good ratings in the fun-to-drive capabilities question, and 91 percent reported the same answers for overall performance, comments on the surveys echo our own desires for somewhat better get-up-and-go. An architect/engineer from Illinois wishes "Ford/Mazda could squeeze 10 horsepower more out of the engine," and that may be just enough to tip the performance feel into the Super Coupe category. In the '91 Car of the Year test, the Escort GT returned an 8.7-second posting from rest to 60 mph; we'd like to see another second come off that figure. The survey split its votes on the question: 45.9 percent cited acceleration as excellent, but 50.7 percent said it was only good or average.

MOTOR TREND

On the deceleration cycle, the GT braked from 60 in a nonchalant 146 feet, which leaves room for quite a bit of improvement. The car is equipped with power front and rear disc brakes, but no antilock system was offered then, and none is offered for the '93 models. The survey agrees with us on the braking question, with only 48.1 reporting it excellent and 37.8 percent calling it good. A bit more than 13 percent termed braking only average or poor. More power was a change requested by 17.6 percent; another 11.2 percent want ABS. Bring on the ABS (and a larger wheel/tire combination) in the next-generation performance Escort.

Ford dealer sales and services practices took bad hits. On the

## STRENGTHS/WEAKNESSES

### Mechanical problems

| | |
|---|---|
| Yes | 26.6% |
| No | 73.4 |

### Types of mechanical problems

| | |
|---|---|
| Transmission | 14.8 |
| Fuel pump | 9.8 |
| Gas tank leaks | 9.8 |
| Air conditioning | 8.2 |
| Brakes | 6.6 |

### Specific complaints

| | |
|---|---|
| No complaints | 26.1 |
| Seat comfort | 9.1 |
| Seatbelts—grabs in neck area | 8.0 |
| Power window system | 6.3 |
| Car noise/rattles | 6.3 |
| Power locks system | 5.7 |

### What changes would you like?

| | |
|---|---|
| More power | 17.6 |
| Standard ABS brakes | 11.2 |
| Standard airbag | 10.7 |
| Better power windows | 9.6 |
| Better power doors | 9.1 |
| No changes | 8.6 |

## PURCHASE CONSIDERATIONS

### Why did you buy your Escort GT?

| | |
|---|---|
| Style | 51.6% |
| Price | 27.2 |
| Economy | 21.1 |
| Performance | 16.4 |
| Handling | 15.5 |
| Available colors | 8.5 |

### Would you buy another Escort GT?

| | |
|---|---|
| Yes | 54.9 |
| No | 10.3 |
| Maybe | 34.8 |

### Would you buy another brand of sporty car next time?

| | |
|---|---|
| Yes | 23.9 |
| No | 27.4 |
| Maybe | 48.7 |

### Would you buy another Ford product?

| | |
|---|---|
| Yes | 78.1% |
| No | 2.1 |
| Maybe | 19.7 |

## VITAL STATISTICS

### Transmission

| | |
|---|---|
| 5-speed manual | 61.6% |
| 4-speed automatic | 38.4 |

### Principal driver

| | |
|---|---|
| Male | 45.3% |
| Female | 54.7 |

### Age of respondent

| | |
|---|---|
| Under 20 | 4.1 |
| 20-24 | 16.3 |
| 25-29 | 15.4 |
| 30-34 | 13.6 |
| 35-39 | 12.2 |
| 40-44 | 10.4 |
| 45-49 | 13.1 |
| 50-54 | 5.9 |
| 55-59 | 3.2 |
| 60-64 | 2.7 |
| 65 & over | 3.2 |

### Average Sales Price

| | |
|---|---|
| **Average** | $12,797 |
| **Range** | $10,000-$15,300 |
| Under $11,000 | 5.7% |
| $11,000-$11,999 | 15.5 |
| $12,000-$12,999 | 27.6 |
| **$13,000-$13,999** | **31.0** |
| $14,000-$14,999 | 18.4 |
| $15,000 & over | 1.7 |
| **Average mpg** | |
| City, man./auto. | 27.1/24.8 |
| Highway, man./auto | 31.9/31.0 |

### Mileage

| | |
|---|---|
| Total vehicle miles | 3,061,396 |
| Average miles/vehicle | 13,790 |
| **Model year sales to date** | **19,685** |

## PERFORMANCE/CREATURE COMFORTS

| | Excellent | Good | Average | Fair | Poor |
|---|---|---|---|---|---|
| Performance rating | **47.2%** | 43.8 | 7.3 | 1.3 | 0.4 |
| Fun to drive | **64.7** | 29.3 | 3.9 | 1.3 | 0.9 |
| Acceleration | **45.9** | 43.8 | 6.9 | 1.3 | 2.1 |
| Braking | **48.1** | 37.8 | 10.3 | 3.0 | 0.9 |
| Handling | **59.7** | 34.3 | 5.2 | 0.9 | 0 |
| Overall comfort | 34.3 | **48.9** | 13.3 | 3.4 | 0 |
| Rear-seat comfort | 17.7 | **54.4** | 19.9 | 6.2 | 1.8 |
| Overall quality and workmanship | 36.4 | **46.3** | 11.7 | 2.2 | 3.5 |

## DEALER RATINGS

| | Excellent | Good | Average | Fair | Poor |
|---|---|---|---|---|---|
| Sales practices | **41.7%** | 32.3 | 14.3 | 4.9 | 6.7 |
| Service practices | **36.5** | 36.1 | 12.5 | 5.3 | 9.6 |

# TECH DATA

## Ford Escort GT

### PRICE

| | |
|---|---|
| Base price | $11,871 |
| Price as tested | $13,924 |

### GENERAL/POWERTRAIN

| | |
|---|---|
| Body style | 2-door, 5-passenger |
| Vehicle configuration | Front engine, front drive |
| Engine configuration | I-4, DOHC, 4 valve/cyl. |
| Engine displacement, ci/cc | 109/1786 |
| Horsepower, hp @ rpm, SAE net | 127 @ 6500 |
| Torque, lb-ft @ rpm, SAE net | 114 @ 4500 |
| Transmission | 5-speed man. |
| Axle ratio | 4.10:1 |

### DIMENSIONS

| | |
|---|---|
| Wheelbase, in./mm | 98.4/2499 |
| Length, in./mm | 170.0/4318 |
| Height, in./mm | 52.5/1333 |
| Ground clearance, in./mm | 5.1/129.6 |
| Curb weight, lb | 2312 |
| Cargo capacity, cu ft | 17.3 |
| Fuel capacity, gal | 13.2 |
| Fuel economy, EPA, city/hwy., mpg | 26/31 |

### CHASSIS

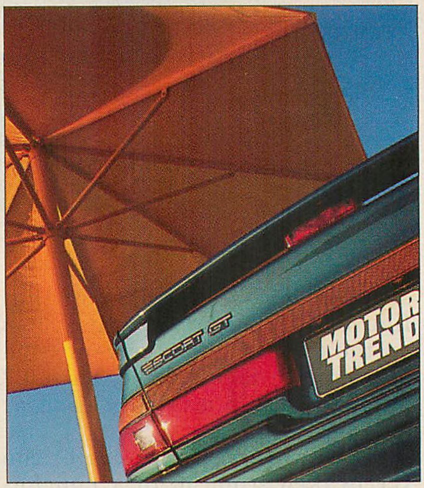
| | |
|---|---|
| Suspension, f/r | Independent/independent |
| Steering | Rack and pinion, power assist |
| Brakes, f/r | Discs/discs |
| Wheels | 15 x 5.5, cast aluminum |
| Tires | 185/60HR15 |

### PERFORMANCE

| | |
|---|---|
| Acceleration | |
| 0-60, sec | 8.7 |
| Quarter mile, sec/mph | 16.8/89.4 |
| Braking | |
| 60-0, ft | 146 |
| Lateral acceleration, g | 0.83 |
| Slalom, mph | 65.3 |

### MAINTENANCE

| | |
|---|---|
| Total mileage | 11,506 |
| Test mileage | 11,169 |
| Fuel consumed, gal | 404.8 gal. |
| Fuel cost | $538.10 |
| Average mpg | 27.6 |
| Additional oil/cost | 1.5 qt/$4.52 |
| Total maintenance | $122.85 |
| Problem areas | Vibration at idle, driver's seat, fuel leak |
| Total operating cost | $665.47 |
| Operating cost/mile | 6.0¢ |



sales side only 41.7 percent termed the experience excellent, with 46.6 percent calling it good or average. An unusually large percentage of respondents, 11.6, identified the experience as only fair or poor. A woman from Texas wrote, "These salesmen still treat women like low-life, stupid people. If a Saturn dealership were within 40 miles of here, I know I would've bought a Saturn."

Although our dealership trips are always made as anonymous customers, not *Trend*ites, our experiences were more favorable than those reported by much of the survey; a low 36.5 percent said their dealer service was excellent—and 59.7 said it was only good or worse.

Many fuel-system problems were written in, including fuel pump, filler tube, and fuel tank problems. In fact, our own car had fuel leaks that were successfully repaired under warranty.

With improved chemistry under its skin, Ford's Escort GT performance pill will cure more driving ills than it now does. Even good things can be made better, which bodes extremely well for the next-generation model. **MT**

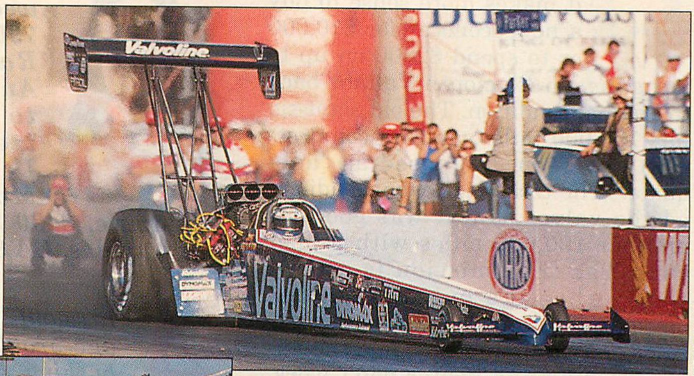
# MOTORSPORT

EDITED BY MAC DEMERE

## GOOD WORK, IF YOU CAN GET IT

If you think NFL stars are paid astronomically for a few hours' work on Sunday afternoons, consider Joe Amato's take from the Budweiser Top Fuel Classic, held at last year's Winston Finals at Pomona. Similar to the Budweiser Pro Stock Challenge and Big Bud Shootout for Funny Cars, the Classic matches the eight Top Fuel drivers who amassed the most points during qualifying efforts for previous national events. The winner is then determined by a three-round elimination.

After defeating Ed McCulloch in the first round with a 4.885-second 297.12-mph run, Amato's Team Valvoline Special nipped Eddie Hill's Pennzoil Special in one of the quickest side-by-side races ever seen: 4.866/296.44 to Hill's 4.896/285.62. In the final, Amato turned a 4.861/292.68 to beat Cory McClenathan. In just 14.612 seconds of racing, Amato had taken home $50,000. That's more than $1.2 million per hour. And the next afternoon, Amato clinched an unprecedented fifth Winston Championship. *—Jon Asher*


JON ASHER

In about 15 seconds of racing in the Budweiser Top Fuel Classic, Joe Amato won $50,000. That's more than $3400 per second.

Budweiser
CLASSIC
$50,000
Fifty Thousand
NHRA
JON ASHER

The hardest part of winning was folding the check into that little ATM envelope.

## JAPANESE BRICKYARD INVASION

The current IndyCar engine war, now virtually an exclusive Ford versus Chevy affair, may soon have a flood of new combatants: the manufacturers that have left, or will soon leave, IMSA. Even before pulling out of IMSA, Nissan began work on an alcohol-burning turbocharged V-8 and, late last year, announced plans to enter the PPG IndyCar World Series, possibly before the end of this season, and the Indianapolis 500 in '94. Also, reliable reports say American Honda is building an IndyCar engine so its Acura brand can enter the fray. With the Brickyard also a possible destination for Jaguar and Mazda, which canceled its GTP program late last year, can Toyota be far behind?

Ironically, while the Ford and Chevy IndyCar engines are designed and built in England, the Nissan will be partially designed and developed in California. Despite this, IndyCar series participants quickly erected rules roadblocks for Nissan and the others. New engine manufacturers must supply at least three cars from two teams and, the next season, up that to at least six cars, selling engines for no more than 10 percent over existing engines.

## GALE FORCE WINDS OF CHANGE IN IMSA

The competition in the International Motor Sports Association's '92 Camel GT series was simply spectacular—but only at the top. Beyond the fierce battle for dominance between Dan Gurney's Toyota Eagles, which won the championship with Juan Manuel Fangio II driving, and Tom Walkinshaw's Jaguar XJR-14, only crumbs were left for others, including the formerly invincible NPTI Nissans. Additionally, the cost to build and run GTP cars has exploded to IndyCar proportions and beyond, leaving most asking, "Why are we here?"—and Nissan, Mazda, and Jaguar answering with, "We're outta here."

IMSA responded with a new set of rules designed to rein in the Toyotas with weight penalties. Also included in the package is a variety of incentives to lure independents, driven away by cost, back to the Camel GT fold, as well as an extensive television package intended to bring back the audience.

For its long-term future, IMSA announced plans for a new category, called World Sports Cars. It'll debut in 1994 and, the next season, replace GTP entirely. Though exact rules are far from firm, WSC will likely prohibit turbos and purpose-built racing engines, and require production-based powerplants, as well as severely reducing aerodynamic devices and limiting exotic materials.

Will it work? It's too early to tell whether Camel GT is on the road to recovery, or on an entirely different path. *—Laura Culley*

## NEW QUARTER-MILE RECORD SET

The '92 season brought a host of new elapsed time and speed records among quarter-mile performers, with Kenny Bernstein's breaking of the 300-mph mark topping the list. Bernstein exceeded 300 mph two other times and was the only driver to top the triple-century mark in '92. Eddie Hill turned in the all-time elapsed time mark with a 4.779-second run.

Funny Car champion Cruz Pedregon set a new standard with an elapsed time of 5.076 in his McDonald's-backed Oldsmobile. Mark Oswald established a new Funny Car speed mark with a 293.06 mph in the Petosa Bros. Dodge Daytona.

In Pro Stock, the top-speed mark belongs to Oldsmobile driver Warren Johnson with a 194.51-mph run, while the elapsed time mark is held by Scott Geoffrion's Dodge Daytona at 7.009 seconds. *—J. A.*

# THE MOTORIZED WORLD

### OF LEON KAPLAN

**Q** I've been debating whether it makes more sense to buy a new econocar for $10,000 or to spend $2000 on up to bring my '65 Plymouth Valiant back to original condition. The old slant-six has 135,000 miles, and its compression has been diagnosed as "adequate." The technician who re-adjusted the valves said it was good for another 100,000 miles with proper care. The transmission is a little rough when it's put in gear, but smooth on the road. I'm experiencing some electrical problems, and the air-conditioning and heater don't work. My questions are: Should I restore the Valiant, and if so, how? Should I have any concerns about the environment with this 27-year-old car?

Phillip K. Dunn
Corpus Christi, Tex.

**A** *From your description, you don't have a lot of trouble with the engine or transmission. A good, qualified technician who knows air-conditioning and heating would be able to bring those units into working condition. That would be an investment I'd definitely make at this time. For the balance of the car mechanically, I'd go ahead and drive it regularly with proper intervals between motor oil and fluid changes.*

*Environmentally, the '65 Plymouth Valiant with the slant-six isn't a particularly "dirty" car; however, it definitely doesn't have the low emissions of today's automobiles. It should be tuned to the manufacturer's specifications. It's always cheaper to repair than replace (my favorite saying), so hold on to that Plymouth and save your money.*

**Q** I have automatic transmission problems with my '88 Mazda MX-6 with 71,000 miles. While driving 60-70 mph, the green "D" (drive) light goes off, and the car drops into a lower gear. When the car is stopped, put into neutral, and then back into drive, the problem seems to go away. This happened once at 59,000 miles and never again until 70,000 miles, after which, it happened three times. The transmission has been routinely serviced. The dealer ran a transmission line pressure test, but didn't find anything. What's the problem?

F. Martin Sultan
W. Haverstraw, N.Y.

***Kaplan hosts a weekly show on 790 KABC Talk Radio in Los Angeles. Write to the Motorized World of Leon Kaplan, Motor Trend magazine, 8490 Sunset Blvd., Los Angeles, CA 90069.***

**A** *It sounds as if it's a linkage problem, possibly a bushing, between the gear shift selector and the transmission. If this bushing develops too much play, the linkage could actually drop the transmission into a lower gear while driving. The next time this happens, jiggle the gearshift selector and see if the light returns. I don't think you have a major problem. Have a transmission specialist check the linkage connections at the gearshift selector and at the transmission. You'll probably find an inexpensive bushing or an adjustment of the shift linkage will correct the problem.*

**Q** My '91 Supra Turbo has two problems. First, the car drifts to the right while on the highway. I took it to the dealer twice to correct that problem and was told there was nothing wrong, the car was sensitive to the crown of the road. Second, I hear a squeaking from the rear of the car, especially when driving over bumps or turning into the driveway. Any ideas?

Sami Boulos
Carlsbad, Calif.

**A** *To answer your first question, assuming the front-end alignment is correct, you should look at two areas: steering and tires. If there's a problem with your rack-and-pinion steering, excessive power-steering pressure can be applied to the wrong side of the system, causing the car to pull. Tires could also cause your car to pull. Rotate the tires front to rear, and see if the pulling stops. It's not uncommon for cars to pull slightly over the crown of the road, but on flat roads, a car should drive straight. Have a technician check the power steering system and also the tires, especially air pressure.*

*For your second question, the squealing in the back could be a bad shock absorber or strut, or a rear suspension component that may need lubrication or tightening. A squeak in the rear of your car isn't common, especially with this sophisticated double wishbone-type setup.*

**Q** Recently, we had the 2.9-liter V-6 in our '89 Ford Bronco II rebuilt, including a new clutch. The overhaul was necessary because of a severe overheating condition. Since the rebuild, the gas mileage dropped from 17 mpg to 11. We've been back to the repair shop several times, but they couldn't find anything wrong. The rebuilt engine runs smoothly, and we now have 2500 miles on it. The new fan clutch makes considerably more noise than the original. Could that affect gas mileage? What else could make such a drastic reduction?

Randy Reese
Las Vegas, Nev.

**A** *Have the shop retest your car on an infrared machine (or find a shop that has one). This machine can diagnose your gas mileage problem. It analyzes the exhaust and measures whether an engine is running rich or lean, which should give you an idea of what's happening. You may find a sensor is bad, not hooked up properly, or has a faulty connection.*

*However, one thing that concerns me is that the fan clutch makes more noise than before your engine was rebuilt. If the fan isn't operating properly, you could see a big drop in gas mileage and performance. (Don't underestimate the power it takes to run the fan.) Have your shop check the fan and fan clutch. The shop should've installed an original-equipment replacement fan clutch.*

**Q** I have an '88 Buick Skylark with the Quad 4 engine and 55,000 miles. The car has a three-speed automatic transmission. At around 43,000 miles, the car started shaking badly at idle in drive with the air-conditioning on or off. Why do I have this vibration?

Willard Harper
Moultrie, Ga.

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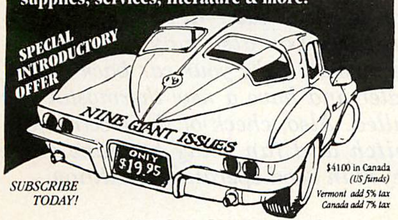

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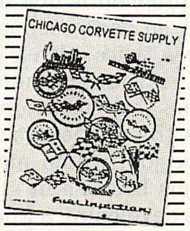

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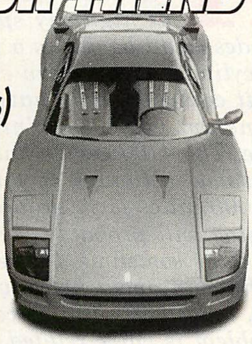

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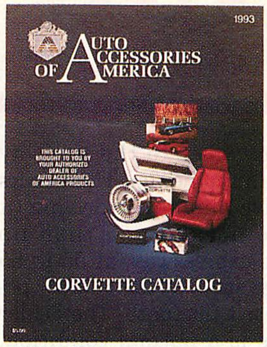

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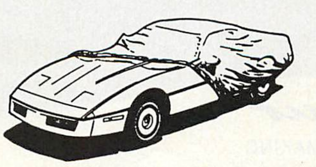

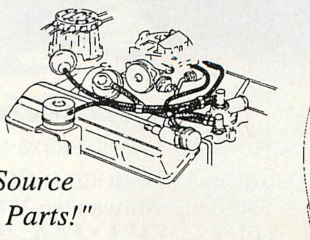

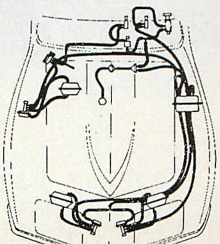

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# THE MOTORIZED WORLD

### OF LEON KAPLAN

**A** *There are at least four things that could cause an engine to shake or vibrate at idle. First is engine compression. If there's low compression, especially with a four-cylinder engine, you'll feel it. Have the compression checked. Second would be the engine or motor mounts. After 40,000 miles, engine mounts could start to sag because they're rubber, and a metal against metal condition would begin, causing a vibration. The third area to look at is ignition timing. It's not as likely for late-model cars such as yours to go out of time, but have it checked anyway. Finally, check the fuel-injection system for vacuum leaks. To clean your injectors, have a specialist run a cleaner through the system. One or more of these remedies should solve your rough-idle condition.*

**Q** I own a '92 Chrysler LeBaron 3-liter V-6 automatic with 8000 miles. In the first five minutes of driving, the temperature gauge goes to the halfway mark and the fan comes on. This occurs about every five minutes of driving (it goes down to normal and then up again). On the expressway, at 55 to 65 mph, the gauge stays at the quarter position and doesn't fluctuate. The dealer says that this is a normal condition. However, I don't recall it happening during the first 6000 miles. Is this something I should be concerned about?

Lloyd Barry
New Hyde Park, N.Y.

**A** *Your temperature gauge goes up in the first five minutes of driving when cold because the thermostat is closed. During this cold-start condition, the engine heats up quickly to its most efficient temperature. The fact that your gauge registers lower while at expressway speeds is because of the volume of air hitting the radiator.*

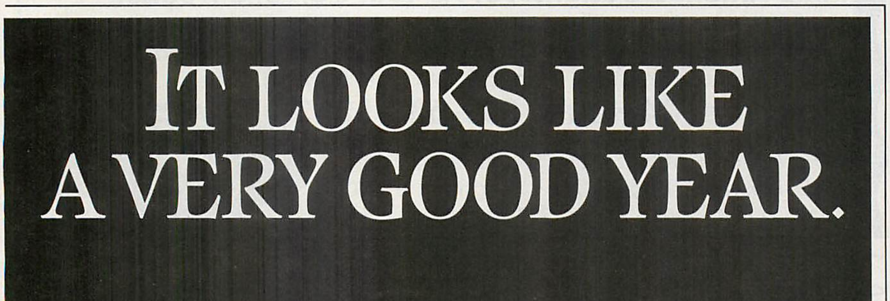
*The LeBaron has an electric fan. If your fan switch or relay is faulty, you'll notice the temperature rise that your gauge is registering. Your fan may be coming on too late—at too high a temperature. You also may have a bad thermostat. Take your car back to the dealer and have a new thermostat installed. Also, check of the electric-fan switch and fan relay to make sure they're in good operating condition.*

**Q** My '86 Cadillac Coupe de Ville has developed a vibration that only occurs at highway speeds on an upgrade. My mechanic says this is characteristic of the 4100 engine and that it's a trouble-prone engine. He thinks the problem is due to a carbon buildup from bad gasoline. He cleaned the valves twice with a chemical cleaner and, although there was improvement, the vibration still exists. He says the only course now would be a valve job, which may open a can of worms because he's heard of this engine developing a knock after accessory drivebelts have been changed.

The bottom line is that he suggests I unload it and get another car. My car has 78,000 well-maintained miles on it, and it still looks great. I want to keep it if I can. Is it worth the risk of attempting the expensive valve job or would the money be better spent toward installation of a remanufactured engine?

Daniel S. Korkosz
Springfield, Mass.

**A** *You don't indicate whether the engine is misfiring. A vibration that occurs only at highway speed on upgrades could be due to a faulty valve or cylinder creating an engine miss, or it could possibly have a bad CV (constant velocity) joint or a drive axle. The 4100 engine has been troublesome, although if you've driven 78,000 miles with no problems, the engine will probably keep running for quite sometime. I agree with your technician about not having a valve job, unless he's 100 percent sure the problem is valve-related. Since your vibration occurs when you're putting a strain on the drivetrain (climbing a hill), I'm not sure the problem lies in the engine. Get a complete diagnostic checkup of the engine, including a compression test and a cylinder leakdown test to identify the problem. In the unlikely event that you'd need to replace the engine with a remanufactured one, it would be the best investment you could make. Your Coupe de Ville is a nice car, and a new engine would go for another 100,000 miles.*



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Q The timing chain on my '79 351 V-8 Ford Thunderbird broke. I had it repaired, and when I started the car, the valve lifters made a lot of noise. I drove it awhile, then brought it back to the shop. They put a half-quart of power-steering fluid in with the oil. That quieted all but one lifter, which sounds as if it's completely collapsed. What's going on inside my V-8? Do I need a new lifter?

W.U. Andersen
New York, N.Y.

A *Your problem may be with a lifter. When the timing chain broke, one of the pistons could've hit the intake or exhaust valves, causing lifter or valve damage. The timing chain turns the camshaft, which has lobes that open and close the valves. On your particular engine, the timing chain operates via a gear with nylon teeth (also quite common with GM vehicles). When a timing chain breaks, sometimes the nylon gear particles fall into the oil pan. These small particles are then picked up by the oil pump, restricting the amount of oil that can get to the lifters and other lubricated parts of the engine.*

*For timing chain or gear problems, remove the engine oil pan and check for particles that may restrict oil flow. Putting power-steering or transmission fluid in with crankcase oil only thinned out the oil and didn't solve your problem. In the days before detergent motor oils, mechanics mixed the two oils together. On vehicles today, transmission and power steering fluid belong only in their respective units, not in the engine.*

*Remove your engine oil pan, clean it along with the oil pump screen, then put in a good quality engine oil. That should break the lifter free and quiet your engine.*

## LEON'S MOTORING TIP OF THE MONTH

*Could your vehicle's trunklid or rear tailgate be putting you to sleep? You may be getting exhaust gas fumes inside your car and not know it until it's too late. Many cars I've serviced, especially older models, have a worn trunk or rear tailgate rubber seal or molding. Usually the driver is unaware of this potentially dangerous condition. Air turbulence at the rear of a vehicle at highway speed will cause exhaust gases to seep through a poorly sealed trunk or rear tailgate on a wagon-type vehicle and enter the passenger compartment. Before you know it, you're feeling drowsy or may even fall asleep at the wheel. To check on these rubber seals, take a sheet of notebook paper, place it over the edge (over the seal) and shut the trunk or tailgate. Now try to pull out the paper: If it comes out easily, replace the seal. Do this test along the entire molding surface.*

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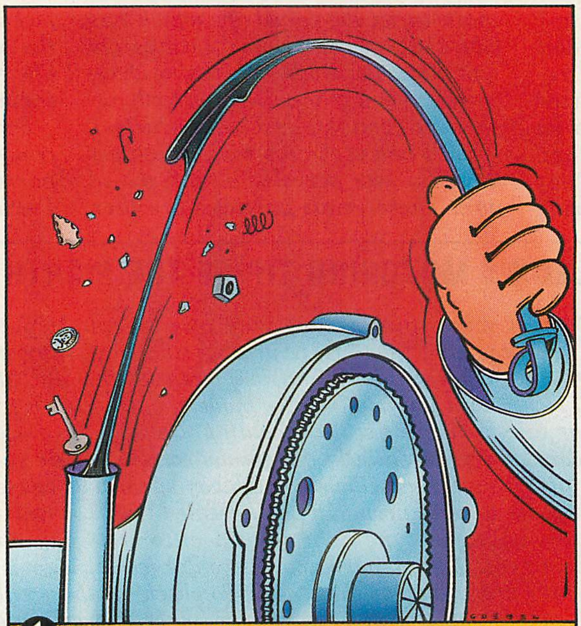
# CAR CARE

BY RIK PAUL

## READ ANY ATF LATELY?

More people than ever are taking the shiftless approach to driving. And why not? Today's automatic transmissions aren't the slushboxes of yore. In fact, with their finetuned mechanicals and sophisticated electronic control systems, automatics are often so reliable and carefree, we easily forget they still should be checked periodically to avoid unwanted surprises. For the do-it-yourselfer, this means simply checking the automatic transmission fluid (ATF).

This is no small thing, however. The ATF is your window to the inside of an automatic transmission. If you know what to look for, it can tell you a lot about how the transmission is operating and give early warning of potential problems before they become disabling.



① MAKE SURE FLUID HAS CORRECT COLOR AND VISCOSITY—CHECK FOR FOREIGN MATTER.

JOE GOEBEL

ATF doesn't require the same frequency of service as motor oil. In fact, the maintenance schedule for a typical late-model car driven under normal conditions calls for inspection of the ATF every 15,000 miles or 12 months. Replacement of the fluid isn't even called for on some schedules, unless the vehicle is used under more demanding conditions, such as frequent towing, around-town trips, or in hot weather or dusty conditions. Then the fluid should be replaced every 30,000 miles or 24 months. To check the schedule for your car, look in your owner's manual.

ATF is more than just a lubricant; it's a vital component in the operation of an automatic transmission. It's used to transmit power in the torque converter, activate clutches and bands, control hydraulic valves, lubricate gears, bearings, and bushings, and cool the transmission. In short, without this fluid, an automatic transmission simply won't function. In fact, something as easily correctable as low fluid level can cause such severe operation problems as clutch slipping, shift flare, incorrect shift timing, abnormal noise, or loss of a gear. Plus, it can lead to some expensive repairs.

**ATF IS YOUR WINDOW TO THE INSIDE OF AN AUTOMATIC TRANSMISSION**

……

## DO THE RIGHT THING

As with engine oil, ATF is checked with a dipstick; however, most trannies have a dipstick with separate scales for hot and cold. Although the transmission can be checked either way, the preferred—and more accurate—method is to check the ATF with the transmission at full-operating temperature.

To do this, drive the vehicle for 10 to 15 minutes at highway speeds. Then, with the engine idling, park the car on a level surface and set the parking brake. Place your foot firmly on the brake pedal, and shift the transmission through all gear ranges, from Park to 1st (or Low) and back again. Now the transmission is ready to check.

If the area around the top of the dipstick tube is dirty, wipe it clean before you remove the dipstick. An automatic transmission is a precision piece of machinery, and even a little dirt can score machined surfaces or cause critical valves to stick.

Checking the fluid is the same as checking engine oil. Pull out the dipstick and wipe off the oil with a clean, lint-free cloth. Note where the hot scale is on the dipstick (some dipsticks only have one scale), then reinsert it into the tube until it seats. Withdraw the dipstick again and see where the fluid falls in relation to the scale.

If the fluid is at or near the upper mark, its level is fine. If it's near or below the lower mark, fluid should be added. Before you do this, though, also check the condition of the fluid to make sure the transmission is working normally.

## CONDITION RED

The condition of the ATF can tell you if something is wrong with your transmission, even before you notice any performance problems. Look closely at the fluid on the dipstick. ATF in good condition is clear and red or green, depending on type. If it's dark, it could mean that clutch slippage is occurring, especially if the fluid also has a burned odor.

If the ATF is pink and milky, water or coolant has mixed with the ATF through a leak in the system; usually between the transmission cooler and the radiator. In this case, the fluid level also may be high. Not only will the cooler need to be repaired, but, since coolant can affect internal seals, the

### HOW TO READ ATF:

| Condition of ATF | Possible Cause |
|---|---|
| Dark color | Clutch slippage |
| Pink, milky color | Water/coolant contamination |
| Foaming | Oxidation |
| Burnt odor | Transmission overheating or slippage |
| Varnished or tacky | Overheating |
| Metal bits in fluid | Internal component failure |

transmission may need to be rebuilt.

If there's evidence of foaming or if the fluid exhibits a tacky, varnished condition, this is a sign of oxidation, due to overheating or incorrect fluid level.

Finally, after the fluid and dipstick have had a chance to cool for a few moments, slowly slide your fingers through the fluid on the dipstick and feel for any bits of metal. This can be an indication of internal damage. Transmission pros admit it's not unusual in some transmissions for small bits of aluminum to collect in the ATF over a period of time, as a characteristic of normal wear. However, bits of steel indicate serious damage. Steel and aluminum bits can be distinguished by using a magnet; steel is magnetic, aluminum is not. However, to be on the safe side, don't take any metal bits lightly.

If your fluid exhibits abnormal conditions, take the vehicle to a dealer or transmission repair shop to have it checked out thoroughly.

## TOPPING UP

If the fluid level is low, ATF can be added through the dipstick tube. Before you do so, though, check your owner's manual to make sure you buy the right type of fluid for your car. All *ATFs, basically*, are either Dexron II or Type F (used in Ford vehicles). The two are not compatible, and since automatic transmissions are designed to use a specific type, pouring in the wrong one can produce performance problems. For instance, using Type F in a transmission designed for Dexron will produce harsh shifts.

The easiest and cleanest way to add fluid is to place a long, thin funnel into the tube. Then pour a little fluid in at a time, rechecking the level often. Be careful not to overfill the transmission, as too much fluid can produce foaming, which negatively affects performance.

## THE LOW ROAD

If you find the ATF level is often low, your transmission has a leak somewhere. If the fluid's seeping through the oil-pan gasket, or coming from a connection in the hoses running between the transmission and oil cooler, you can probably do the repair yourself.

Use an engine degreaser to thoroughly clean the transmission and engine compartment. Then place clean pieces of cardboard or a sheet under the entire area and let the vehicle sit for a while. If you notice drops of a reddish or greenish oil, this could be ATF, and you can use the board or sheet to help locate the area of the leak. Some leaks only occur during operation, so try starting the engine, setting the parking brake, placing your foot on the brake pedal, and shifting through all the gears.

Once you've found drops, jack up the car, place it on jackstands and, with a flashlight, crawl under the vehicle to pinpoint the exact location. If the leak is from the oil-pan gasket or hose, refer to a service manual for the proper way to drain the transmission, repair the problem, and refill it with ATF. If the leak is from a gasket or seal elsewhere in the transmission, you'll probably need a shop to do the work.

## IN THE PIPELINE

**Cool News:** OZ Technology, Inc., of Post Falls, Idaho, claims to have formulated a direct, drop-in non-CFC replacement for current R-12-type air-conditioning systems. According to the company, OZ 12, as the product is called, is 18 percent more efficient than R-12, and doesn't require retrofitting or modification of the system components. OZ 12 has been submitted to the EPA for testing and approval...**Fight for the Finish:** Meguiar's, of Irvine, California, recently introduced a free service called the Car Care Prescription guide to help car owners maintain their vehicle finish. This computer-generated sheet offers step-by-step instructions for washing, waxing, and performing regular maintenance based on specific information sent by the owner. It considers such factors as environmental conditions, color of the car, and age and condition of the finish. The guide also tells you which Meguiar's products to use for specific purposes. For a personalized guide, call toll-free 800/545-3321 ...**Gotcha!** Few things are more frustrating than an intermittent electronic problem that disappears as soon as you take the car to a shop. Now, to pinpoint these types of problems, many Chrysler dealerships are using a Mopar Diagnostic System computer tool, called the MDS Co-Pilot. The unit is connected to the vehicle's computer at the dealership and includes a small handpiece that sits on the seat next to the driver. The owner drives the car normally and, when the problem occurs, presses a button on the handpiece that electronically records what's happening in the system. This information can then be uploaded into the dealership's main diagnostic computer, which helps the technicians locate the source of the problem...**Wipe Off:** The '93 Camaro and Firebird earn points with the do-it-yourselfer by integrating a flexible rubber squeegee onto the end of the engine oil dipstick tube. When checking the oil, merely press the rubber sides together as you pull out the dipstick, and the oil is wiped off. No need for a rag.

## TEST YOUR CAR-CARE IQ

The Car Care Council suggests that the next time a self-proclaimed car expert dominates an otherwise pleasant conversation, try putting him to the test with this short car-care quiz. The Council suggests that amateur mechanics consider three correct answers as a passing score; four as excellent; and, if your know-it-all friend gets all five correct, he deserves his self-esteem.

**1.** Before traveling a long distance at interstate-highway speeds, tires should be deflated by at least four pounds. True or false.

**2.** If most of your driving involves short trips, it's unnecessary to replace the oil filter with each oil change. True or false.

**3** Which is the most common cause of vehicle fires: (a) overheating radiator; (b) faulty wiring; (c) heat build-up in disc brakes.

**4.** An air conditioner puts an added burden on an engine, affecting fuel economy by as much as: (a) 5 percent; (b) 10-20 percent; (c) 25 percent.

**5.** Your engine is using too much oil. Your mechanic says worn valve guides are the cause. You think the problem can be traced to tapered cylinder walls.

*continued on next page*

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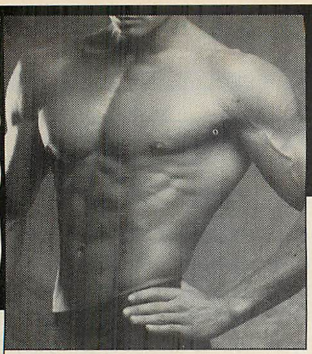

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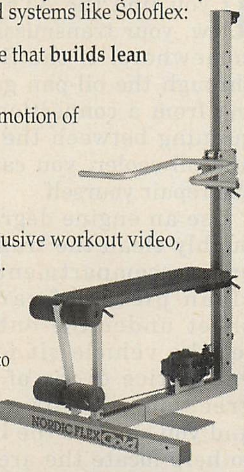

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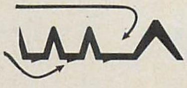
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# CAR CARE

BY RIK PAUL

Who's right? (a) your mechanic; (b) you; (c) both; (d) neither.

**Answers to Car Care Quiz:**

**1.** False: Tire inflation should be at the recommended pressure shown in the owner's manual or on the information sticker usually displayed inside the glovebox door or on a door jamb. When carrying extra weight, you may want to increase pressure by up to 4 pounds, but never exceed the maximum recommended pressure imprinted on the sidewall of the tire.

**2.** False: For long engine life and economical operation, keep the oil clean. This requires a new oil filter whenever the oil is changed. In the case of short-distance driving, with frequent starts and stops, which are especially hard on the engine, oil should be changed more frequently and always with a new filter.

**3.** B is correct: To minimize chances for a car fire; (1) *replace* defective wiring; (2) maintain a clean engine, free of accumulated oil and grease; (3) Keep all fuel-line connections tight, *and be alert to* the odor of seeping gasoline; (4) periodically service the charcoal fuel vapor canister; (5) don't park on high grass or other combustible material that can be ignited by a hot catalytic converter. Note: A good investment is a Class A, B, or C-rated dry-powder fire extinguisher conveniently located in your vehicle.

**4.** B is correct: It takes engine power to operate the air-conditioning compressor and, depending on circumstances, that burden can increase fuel consumption by as much as 20 percent. Ease the load on your small-engine vehicle by turning off the air conditioner while climbing a steep hill.

**5.** C is correct: Both worn valve guides and tapered cylinder walls can allow oil to enter the combustion chamber, which causes oil to burn. Another cause of this malady is worn piston rings. When burning oil is the problem, don't think about major engine work until you've checked for a clogged crankcase ventilation system (especially the PCV valve), which can create the same symptoms as major engine wear. The cost would be just a few dollars verses hundreds.

# INVESTMENTS

BY ROBERT J. GOTTLIEB

## AFFORDABLE COLLECTIBLES

Many collectors feel as if they've died and gone to heaven. Prices are down enough so that, for the first time in years, the collectibles are affordable. Collectors are buying and fulfilling dreams, and the cars are falling into the right hands rather than being traded continually as mere commodities. Most important, there are no speculators in sight to upset the euphoria.

## PRICEY PARTS

Dramatic price drops have caused some strange results. For the first time since the late '60s, some Duesenbergs are being parted out instead of being restored. Many of the cars are worth more dismantled than as driveable vehicles. Here's a sampling of some amazing prices: an unrestored emergency brake handle, $4000; a gearshift rod (rod only, no ball), $1000; a stainless steel reproduction gearshift rod, $1500; a genuine but unrestored water temperature gauge, $500; a good blower, $100,000 (replica blowers, $50,000 to $60,000, depending on condition).

The handwriting was on the wall as early as 1991, and possibly 1990. At the Sam Vaughn estate auction in Texas, a totally restored limousine on a long-wheelbase chassis went for much less than $400,000. At the time, the belief was that it brought so little because it was a closed car.

Currently, the Imperial Palace in Las Vegas, Nevada, has a Duesenberg JN convertible sedan on sale at $500,000. It was bid to $500,000 at the Clyne-Williams auction in late 1992, but no one would bid anything above that figure to acquire the car. It's safe to say owners of unrestored, closed, or undesirable open-bodied cars indeed can make more money by selling off the parts. Labor costs haven't dropped much, so restoration costs are almost prohibitive. We're left with the unique situation that one of the most expensive cars on the market may not be a fit candidate for restoration. Sadly, this will lead to the destruction of some original cars that should be preserved regardless of cost or profit.

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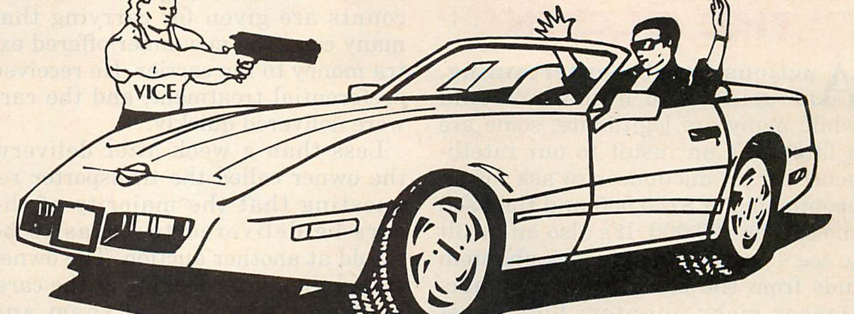

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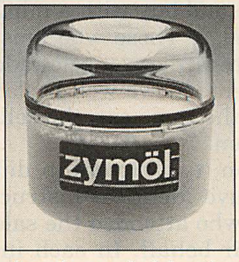

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## PRETTY, BUT CAN IT RUN?

Cars traded by collectors are quite different from auction cars. Most collector cars are in good condition, rarely exposed to neglect, rust, or almost total destruction. Collectors really do have the cream of the crop in their garages.

Auction cars tend to be rarer, higher priced, and often so exotic or unusual they're more suited to dealers or the few investors still in the business. Many auction cars are restored cosmetically so they sell, but mechanical parts are often neglected. It's amazing how many cars can't make it up the auction ramp without being pushed, and even more amazing that so many can't be started after the bidding is over. Clearly a substantial number of auction cars are not meant for driving.

## TALES FROM THE BLOCK

Auctions can be entertaining, amusing, and humorous. And while many are legitimate, some are a farce. It's an insult to our intelligence for an auctioneer to ask for an opening bid of $150,000 and then sell the car for $20,000. It's also an insult to see a poor auctioneer pick phantom bids from the crowd. If a good auctioneer picks phantom bids, most spectators won't know it. A poor auctioneer is an obvious liar when he announces a no-sale as sold, but a good auctioneer can make the spectators believe in the sale. A potential buyer must know, in addition to the merchandise, the manner in which the auctioneer conducts the sale.

Much of auction humor comes from the antics of newcomers, referred to as "new money." They've recently discovered old cars and buy with a minimum of knowledge. Those who must purchase a car regardless of price add to the amusement. If two well-heeled enemies bid on the same car, the seller's in hog heaven.

At one auction, two buyers in different states gave identical instructions to agents who attended the sale and bid on their behalf. In each instance, the potential buyer felt the car (a beautifully restored American Bantam) might sell for $15,000 to $20,000. Each thought that if the car went to $30,000 or $32,000, it was worth paying the difference to acquire the car and gave his agent instructions to "buy at any price." As the crowd watched in amazement, the agents followed instructions and bid the car to almost $100,000. It was sold, and yes, the new owner paid for it.

New money is always welcome because without newcomers, the retail end of the system would come to a halt. Consider the newcomer to an auction held late in 1992. Having discovered the world of collector cars, he proceeded to purchase almost 30 cars at his first auction. He paid so much, and raised the sale percentage so high, that many thought the old-car market had turned around. At the close of the auction, he requested one of the best-known car transporters to deliver all his cars at once. The representative of the transporter stated it would be impossible for a variety of reasons. Not knowing that huge discounts are given for carrying that many cars, the newcomer offered extra money to the carrier. He received preferential treatment, and the cars were delivered quickly.

Less than a week after delivery, the owner called the transporter requesting that the majority of the cars be delivered to Texas to be resold at another auction. The owner stated that, after looking at the cars, he didn't like most of them and wanted them out of his sight. The transporter advised him that the Texas gathering was much smaller than the previous auction, that the prices realized at the smaller auction weren't nearly as high as at the large one, and that he probably would lose money. Mr. Newcomer declared that would be better than having to look at more than 20 cars he didn't want. The cars were picked up for resale "at any price."

At any price means at no reserve, and no-reserve cars generally sell for more than cars with a reserve. You guessed it. Our story has a happy ending. Mr. Newcomer made money, the auctioneers made money, the transporter made money, and the original sellers remained ecstatic. Writers were happy that they finally could announce the old-car market had turned around, and the sales tax collectors continued to smile as they always do. There's a moral to this story, but we won't print it.

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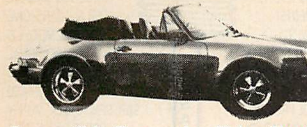

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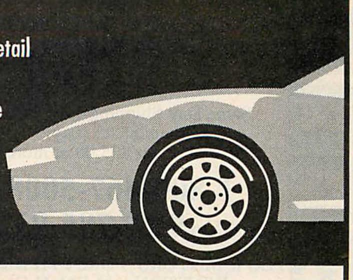

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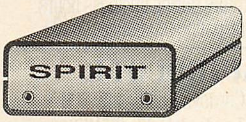

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# ROAD TEST REVIEW

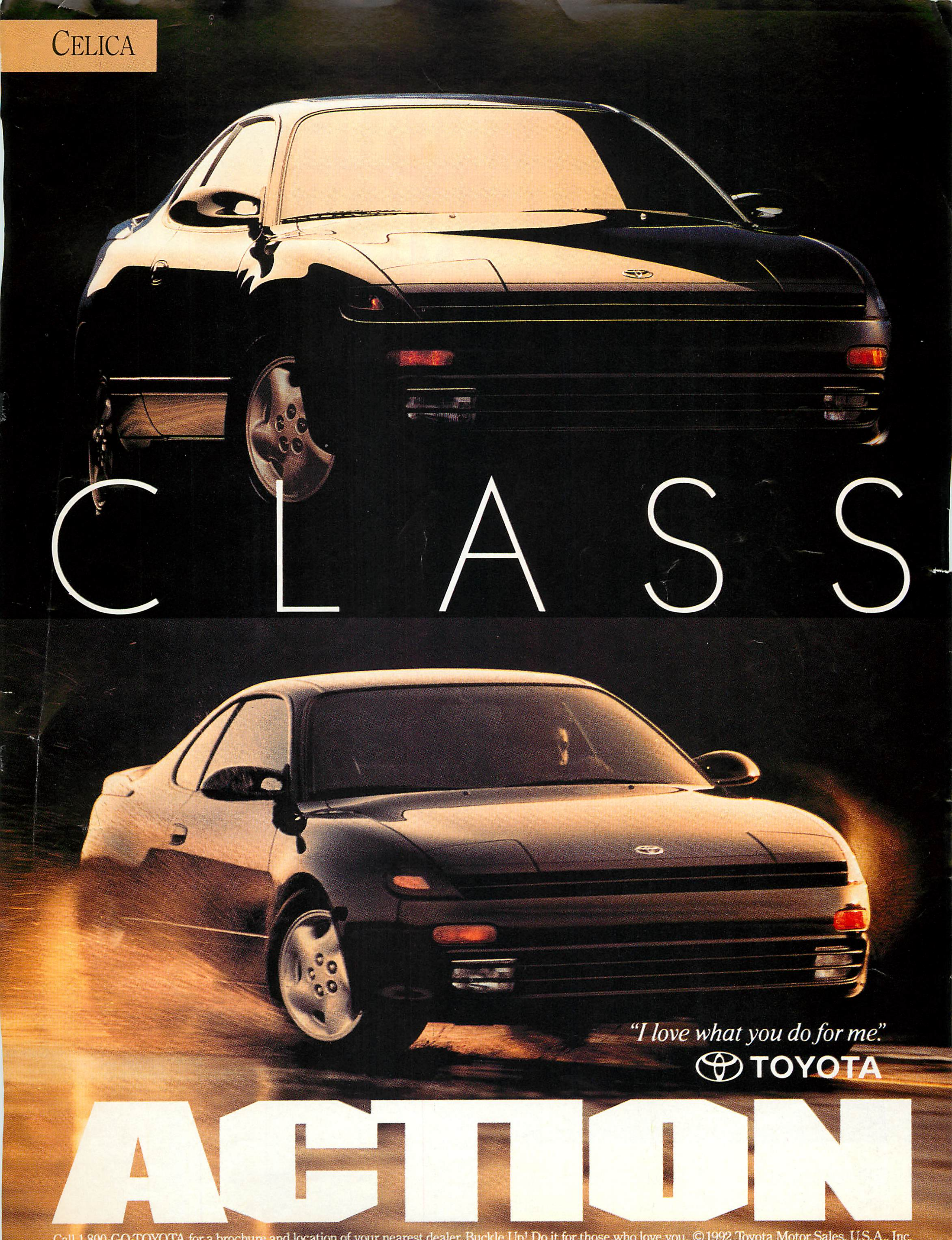
| | Model/Year | Issue | Price Base/As Tested | Powertrain Configuration | Power (hp/rpm) | Torque (lb-ft/rpm) | Acceleration 0-60 (sec) | Acceleration 1/4 Mile (sec/mph) | Braking 60-0 (ft) | Lateral Accel. (g) | Slalom (mph) | City/Hwy. EPA (mpg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 - $15,000 | Ford Escort LX-E/'92 | 5/92 | $11,933/$14,008 | 1.8 I-4/5M/fwd | 127/6500 | 114/4500 | 9.3 | 17.0/81.7 | 138 | .82 | 63.7 | 26/31 |
| | Geo Metro LSi Convertible/'91 | 6/91 | $9,740/$11,131 | 1.0 I-3/5M/fwd | 55/5700 | 58/3300 | 13.8 | 19.2/70.5 | 150 | .77 | 59.2 | 40/46 |
| | Geo Prizm LSi/'93 | 1/93 | $10,630/$14,404 | 1.8 I-4/5M/fwd | 115/5600 | 115/2800 | 11.0 | 17.8/77.4 | 140 | .76 | 56.7 | 28/34 |
| | Geo Storm Hatchback/'91 | 4/91 | $11,450/$11,450 | 1.6 I-4/5M/fwd | 95/5800 | 97/4800 | 10.5 | 17.6/77.9 | 124 | .84 | 62.5 | 30/36 |
| | Honda Civic Coupe EX/'93 | 2/93 | $13,200/$14,520 | 1.6 I-4/5M/fwd | 125/6600 | 106/5200 | 8.4 | 16.5/84.1 | 142 | 78 | 60.4 | 29/35 |
| | Honda Civic Si/'92 | 12/91 | $11,800/$12,025 | 1.6 I-4/5M/fwd | 125/6600 | 106/5200 | 8.5 | 16.4/86.0 | 146 | .75 | | 29/36 |
| | Hyundai Elantra GLS/'92 | 3/92 | $9,999/$11,770 | 1.6 I-4/5M/fwd | 113/6000 | 102/5000 | 10.5 | 17.7/80.2 | 144 | .82 | 64.3 | 22/29 |
| | Hyundai Scoupe/'91 | 7/91 | $8,495/$10,510 | 1.5 I-4/5M/fwd | 81/5500 | 91/3000 | 11.9 | 18.4/73.5 | 146 | .84 | 64.1 | 26/34 |
| | Isuzu Stylus XS/'91 | 3/91 | $11,299/$14,243 | 1.6 I-4/5M/fwd | 130/6800 | 102/4600 | 9.6 | 17.0/81.0 | 136 | .84 | 66.1 | 25/33 |
| | Mitsubishi Mirage Coupe LS/'93 | 3/93 | $10,299/$12,093 | 1.5 I-4/5M/fwd | 92/6000 | 93/3000 | 11.0 | 18.0/76.5 | 138 | .79 | 60.7 | 31/39 |
| | Nissan Sentra GXE/'91 | 4/91 | $12,485/$14,034 | 1.6 I-4/5M/fwd | 110/6000 | 108/4000 | 9.6 | 17.2/80.4 | 148 | .77 | 63.2 | 29/39 |
| | Oldsmobile Cutlass Calais/'90 | 9/90 | $10,895/$12,537 | 2.3 I-4/5M/fwd | 180/6200 | 160/5200 | 7.7 | 16.1/88.2 | 136 | .84 | 66.4 | 22/31 |
| | Plymouth Acclaim/'92 | 1/92 | $10,941/$14,752 | 2.5 I-4/5M/fwd | 100/4800 | 135/2800 | 11.2 | 17.9/77.2 | 148 | .78 | 59.0 | 24/34 |
| | Plymouth Sundance Duster/'92 | 9/92 | $9,849/$11,368 | 3.0 V-6/5M/fwd | 141/5000 | 171/2400 | 8.4 | 16.3/83.8 | 160 | .80 | 63.7 | 20/28 |
| | Saturn SL2/'91 | 4/91 | $10,295/$12,275 | 1.9 I-4/5M/fwd | 124/6000 | 122/4800 | 8.6 | 16.5/84.9 | 145 | .82 | 64.9 | 24/34 |
| | Suzuki Sidekick JLX/'92 | 12/91 | $13,700/$14,720 | 1.6 I-4/5M/4wd | 95/5600 | 98/4000 | 12.3 | 18.6/72.7 | 148 | .70 | 58.1 | 24/26 |
| | Suzuki Swift GS/'90 | 7/90 | $9,199/$10,124 | 1.3 I-4/3A/fwd | 70/6000 | 74/3500 | 11.6 | 18.4/74.8 | 157 | .76 | 59.3 | 30/33 |
| | Toyota Corolla LE/'91 | 4/91 | $11,478/$13,447 | 1.6 I-4/5M/fwd | 102/5800 | 101/4800 | 10.2 | 17.5/79.8 | 147 | .71 | 57.4 | 20/27 |
| | Toyota Paseo/'91 | 7/91 | $10,000/$12,000 | 1.5 I-4/5M/fwd | 100/6400 | 91/3200 | 10.0 | 17.3/80.6 | 134 | .87 | 66.9 | 28/34 |
| $15,000 - $20,000 | Acura Integra GS-R/'92 | 9/92 | $17,910/$19,119 | 1.8 I-4/5M/fwd | 160/7600 | 117/7000 | 7.7 | 16.0/88.1 | 132 | .84 | 67.9 | 24/29 |
| | Buick Skylark GS/'92 | 4/92 | $15,555/$19,427 | 3.3 V-6/3A/fwd | 160/5200 | 185/2000 | 10.3 | 17.6/77.6 | 135 | .83 | 64.1 | 19/26 |
| | Chevrolet Beretta GTZ/'91 | 7/91 | $14,550/$16,134 | 2.3 I-4/5M/fwd | 180/6200 | 160/5200 | 7.7 | 16.1/87.8 | 141 | .86 | 68.4 | 22/31 |
| | Chevrolet Camaro Z28/'93 | 2/93 | $17,200/$17,200 | 5.7 V-8/6M/rwd | 275/5000 | 325/2400 | 5.6 | 14.0/98.8 | 112 | .87 | 65.0 | 17/25 |
| | Chevrolet Lumina Z34/'91 | 10/90 | $16,000/$17,500 | 3.4 V-6/5M/fwd | 210/5200 | 215/4400 | 7.5 | 15.8/89.1 | 153 | .79 | 60.7 | 19/27 |
| | Chrysler Concorde/'93 | 11/92 | $18,341/$21,141 | 3.5 V-6/4A/fwd | 214/5800 | 221/2800 | 8.7 | 16.2/86.1 | 146 | .80 | 61.2 | 18/26 |
| | Chrysler LeBaron/'91 | 6/91 | $15,925/$18,910 | 3.0 V-6/4A/fwd | 141/5000 | 171/2800 | 9.6 | 17.2/80.1 | 170 | .76 | 61.2 | 20/26 |
| | Dodge Dakota/'91 | 1/91 | $14,453/$16,350 | 5.2 V-8/4A/rwd | 165/4000 | 250/2400 | 9.6 | 17.2/79.8 | 153 | .71 | 54.5 | 14/19 |
| | Dodge Monaco ES/'90 | 6/90 | $17,595/$19,551 | 3.0 V-6/4A/fwd | 150/5000 | 171/3600 | 10.3 | 17.5/81.1 | 148 | .82 | 61.3 | 20/29 |
| | Dodge Spirit ES/'92 | 4/92 | $14,441/$16,108 | 3.0 V-6/4A/fwd | 141/5000 | 171/2800 | 11.0 | 17.9/76.1 | 128 | .85 | 65.4 | 20/27 |
| | Eagle Summit AWD Wagon/'92 | 3/92 | $13,469/$15,590 | 2.4 I-4/5M/awd | 116/5000 | 136/3500 | 11.0 | 17.9/76.1 | 150 | .72 | 57.6 | 19/24 |
| | Ford F-150 Flareside Pickup/'92 | 1/92 | $14,776/$19,189 | 5.7 V-8/4A/rwd | 200/3800 | 300/2800 | 9.4 | 17.1/80.4 | 155 | .75 | 53.7 | 12/16 |
| | Ford Mustang Cobra/'93 | 2/93 | $19,550/$19,990 | 4.9 V-8/5M/rwd | 245/4600 | 285/3200 | 6.2 | 14.4/97.4 | 144 | .86 | 64.8 | 17/25 |
| | Ford Mustang LX 5.0/'92 | 9/92 | $14,734/$17,133 | 5.0 V-8/5M/rwd | 225/4200 | 300/3200 | 6.2 | 14.8/95.8 | 138 | .84 | 65.2 | 17/25 |
| | Ford Probe GT/'93 | 1/93 | $15,174/$19,056 | 2.5 V-6/5M/fwd | 164/6000 | 156/4000 | 7.5 | 15.8/88.0 | 117 | .85 | 64.3 | 21/26 |
| | Ford Ranger XLT/'93 | 12/92 | $10,735/$15,700 | 4.0 V-6/4A/rwd | 160/4500 | 2202500 | 8.4 | 16.6/81.4 | 151 | .76 | 58.6 | 14/18 |
| | Ford Tempo GLS/'92 | 4/92 | $12,776/$15,371 | 3.0 V-6/3A/fwd | 135/5500 | 150/4200 | 10.2 | 17.6/78.2 | 137 | .84 | 65.7 | 20/24 |
| | Honda Accord EX/'92 | 7/92 | $19,270/$19,730 | 2.2 I-4/4A/fwd | 140/5600 | 142/4500 | 9.8 | 17.4/80.7 | 134 | .79 | 63.3 | 22/29 |
| | Honda Civic del Sol Si/'92 | 9/92 | $15,000/$17,010 | 1.6 I-4/5M/fwd | 125/6600 | 106/5200 | 8.5 | 16.3/84.3 | 127 | .85 | 64.0 | 29/33 |
| | Honda Civic EX Sedan/'92 | 3/92 | $13,575/$15,310 | 1.6 I-4/5M/fwd | 125/6600 | 106/5200 | 9.4 | 17.0/82.8 | 135 | .79 | 60.8 | 29/36 |
| | Hyundai Sonata GLS/'90 | 1/90 | $13,739/$16,954 | 3.0 V-6/4A/fwd | 142/5000 | 168/2500 | 10.0 | 17.5/79.6 | 133 | .81 | 62.2 | 18/24 |
| | *Infiniti G20/'91* | 3/91 | $17,500/$18,650 | 2.0 I-4/5M/fwd | 140/6400 | 132/4800 | 8.6 | 16.6/85.8 | 131 | .79 | 65.4 | 24/32 |
| | Isuzu Impulse RS/'92 | 9/92 | $15,679/$18,478 | 1.6 I-4 T/5M/fwd | 160/6600 | 150/4800 | 7.7 | 15.8/87.4 | 116 | .86 | 64.2 | 22/28 |
| | Isuzu Rodeo LS/'91 | 4/91 | $16,349/$18,478 | 3.1 V-6/4A/rwd | 120/4400 | 165/2800 | 12.4 | 18.5/72.2 | 159 | .69 | 54.9 | 15/18 |
| | Mazda Miata/'90 | 7/91 | $13,800/$16,024 | 1.6 I-4/5M/rwd | 116/5500 | 100/5500 | 9.1 | 16.7/82.0 | 142 | .86 | 67.9 | 25/30 |
| | Mazda MX-3 GS/'92 | 3/92 | $13,800/$15,650 | 1.8 V-6/5M/fwd | 130/6500 | 115/4500 | 8.5 | 16.3/85.2 | 134 | .87 | 65.9 | 23/28 |
| | Mazda Navajo/'91 | 1/91 | $17,560/$19,970 | 4.0 V-6/4A/4wd | 155/4200 | 220/2400 | 10.4 | 17.6/77.2 | 171 | .64 | 54.6 | 15/20 |
| | Mercury Capri XR2/'91 | 3/91 | $13,355/$17,487 | 1.6 I-4 T/5M/fwd | 132/6000 | 136/3000 | 7.4 | 15.8/90.4 | 137 | .81 | 67.9 | 23/28 |
| | Mitsubishi Eclipse GSX/'92 | 10/91 | $18,849/$19,217 | 2.0 I-4 T/5M/awd | 195/6000 | 203/3000 | 7.0 | 15.3/89.2 | 142 | .84 | 67.1 | 20/25 |
| | Mitsubishi Expo LRV Spt./'92 | 3/92 | $11,989/$15,740 | 1.8 I-4/5M/fwd | 113/6000 | 116/4500 | 10.2 | 17.4/80.1 | 136 | .72 | 59.2 | 26/37 |
| | Mitsubishi Expo SP/'92 | 3/92 | $15,209/$17,916 | 2.4 I-4/4A/fwd | 116/5000 | 135/3500 | 11.9 | 18.6/74.8 | 141 | .70 | 57.3 | 23/35 |
| | Nissan Altima SE/'93 | 2/93 | $16,524/$19,494 | 2.4 I-4/5M/fwd | 150/5600 | 154/4400 | 8.1 | 16.5/84.7 | 116 | .80 | 64.9 | 24/30 |
| | Nissan NX 2000/'91 | 7/91 | $12,970/$15,090 | 2.0 I-4/5M/fwd | 155/5600 | 160/4400 | 7.8 | 16.1/86.0 | 128 | .88 | 69.0 | 23/31 |
| | Nissan 240SX SE/'91 | 7/91 | $14,095/$15,245 | 2.4 I-4/5M/rwd | 155/5600 | 160/4400 | 7.9 | 16.1/86.3 | 143 | .84 | 66.5 | 22/28 |
| | Oldsmobile Achieva SCX/'92 | 2/92 | $15,200/$17,271 | 2.3 I-4/5M/fwd | 190/6800 | 160/5200 | 8.0 | 16.2/86.3 | 134 | .86 | 67.7 | 21/31 |
| | Plymouth Laser RS Turbo/'92 | 9/92 | $14,811/$16,573 | 2.0 I-4 T/5M/fwd | 195/6600 | 203/3000 | 7.1 | 15.0/91.4 | 123 | .87 | 69.2 | 21/28 |
| | Pontiac Grand Am/'92 | 2/92 | $13,699/$16,535 | 2.3 I-4/5M/fwd | 180/6200 | 160/5200 | 7.5 | 15.9/89.2 | 141 | .86 | 67.2 | 21/31 |
| | Pontiac Trans Sport SE/'92 | 5/92 | $16,225/$20,622 | 3.8 V-6/4A/fwd | 165/4300 | 220/3200 | 10.8 | 18.4/75.4 | 150 | .72 | 59.4 | 17/24 |
| | Saturn Coupe SC/'92 | 3/92 | $11,875/$15,435 | 1.9 I-4/5M/fwd | 124/5600 | 122/4800 | 8.4 | 16.4/85.9 | 132 | .88 | 65.6 | 24/33 |
| | Subaru Legacy Sport Sedan/'91 | 2/91 | $18,899/$19,486 | 2.2 F-4 T/5M/4wd | 160/5600 | 181/2800 | 8.5 | 16.0/84.7 | 123 | .82 | 64.9 | 19/25 |
| | Toyota T100 SR5/'93 | 2/93 | $15,718/$18,958 | 3.0 V-6/5M/rwd | 150/4800 | 180/3400 | 11.1 | 18.0/76.2 | 182 | .76 | 59.9 | 16/21 |
| | Volkswagen Jetta GLI/'90 | 8/90 | $13,750/$15,530 | 2.0 I-4/5M/fwd | 134/5800 | 133/4400 | 9.0 | 16.6/83.2 | 160 | .82 | 64.1 | 22/28 |
| | Volkswagen Passat GL/'90 | 4/90 | $14,770/$18,490 | 2.0 I-4/5M/fwd | 134/5800 | 133/4400 | 10.5 | 17.6/79.8 | 131 | .82 | 61.3 | 21/30 |
| $20,000 - $25,000 | Alfa Romeo Spider/'91 | 5/91 | $20,950/$23,105 | 2.0 I-4/5M/rwd | 120/5800 | 117/2700 | 10.8 | 17.6/79.8 | 148 | .86 | 59.0 | 22/30 |
| | Buick Regal GS/'92 | 4/92 | $19,300/$22,609 | 3.8 V-6/4A/fwd | 170/4800 | 220/3200 | 9.0 | 17.0/80.4 | 143 | .81 | 59.3 | 18/28 |
| | Chevrolet Caprice Classic/'92 | 12/91 | $19,300/$22,884 | 5.0 V-8/4A/rwd | 170/4200 | 255/2400 | 10.3 | 17.4/78.3 | 139 | .78 | 59.6 | 17/26 |
| | Chevrolet Blazer/'92 | 1/92 | $19,280/$24,454 | 5.7 V-8/4M/4wd | 210/4000 | 300/2200 | 11.0 | 17.8/77.4 | 145 | .71 | 53.5 | 13/17 |
| | Chevrolet Lumina APV/'92 | 3/92 | $17,355/$21,908 | 3.8 V-6/4A/fwd | 165/4300 | 220/3200 | 11.4 | 18.4/74.0 | 148 | .74 | 58.5 | 17/24 |
| | Dodge Caravan ES/'91 | 2/91 | $19,120/$21,784 | 3.3 V-6/4A/fwd | 150/4800 | 185/3600 | 11.4 | 18.3/76.0 | 135 | .75 | 57.6 | 18/23 |
| | Dodge Daytona IROC R/T/'93 | 2/93 | $18,523/$21,899 | 2.2 I-4/5M/fwd | 224/=6000 | 217/2800 | 6.3 | 14.8/92.0 | 149 | .84 | 63.3 | 19/27 |
| | Dodge Intrepid ES/'93 | 1/93 | $17,189/$23,570 | 3.5 V-6/4A/fwd | 214/5800 | 221/2800 | 8.8 | 16.5/85.4 | 132 | .77 | 60.7 | 18/26 |
| | Eagle Talon TSi AWD/'92 | 9/92 | $17,390/$20,325 | 2.0 I-4 T/5M/awd | 195/6000 | 203/3000 | 6.7 | 15.2/89.5 | 126 | .87 | 69.0 | 20/25 |
| | Eagle Vision TSi/'93 | 11/92 | $18,341/$24,604 | 3.5 V-6/4A/fwd | 214/5800 | 221/2800 | 9.3 | 16.5/84.6 | 139 | .80 | 60.8 | 18/26 |
| | Ford Crown Victoria LX/'92 | 12/91 | $19,543/$24,767 | 4.6 V-8/4A/rwd | 210/4600 | 270/3400 | 9.5 | 17.1/81.6 | 140 | .78 | 59.2 | 18/25 |
| | Ford Explorer Eddie Bauer/'91 | 9/91 | $21,701/$24,195 | 4.0 V-6/4A/4wd | 155/4200 | 220/2400 | 11.8 | 18.1/75.7 | 174 | .66 | 55.2 | 15/20 |
| | Ford Taurus LX/'92 | 7/92 | $17,775/$22,460 | 3.8 V-6/4A/fwd | 140/3800 | 215/2200 | 9.4 | 17.0/80.9 | 127 | .82 | 62.3 | 18/28 |
| | Ford Thunderbird SC/'90 | 9/90 | $20,390/$20,923 | 3.8 V-6 S/5M/rwd | 210/4000 | 315/2600 | 7.4 | 15.8/90.8 | 136 | .82 | 62.6 | 17/24 |
| | Honda Prelude Si 4WS/'92 | 3/92 | $19,520/$21,570 | 2.3 I-4/5M/fwd | 160/5800 | 156/4500 | 7.8 | 15.9/88.8 | 133 | .89 | 65.3 | 22/26 |
| | Mazda MPV/'92 | 5/92 | $17,865/$22,290 | 3.0 V-6/4A/rwd | 155/5000 | 169/4000 | 11.3 | 18.3/76.3 | 155 | .75 | 59.6 | 17/22 |
| | Mazda MX-6 LS/'93 | 1/93 | $18,575/$22,630 | 2.5 V-6/5M/fwd | 164/5600 | 160/4800 | 7.4 | 15.7/89.3 | 124 | .84 | 64.9 | 21/26 |
| | Mazda 626 ES/'93 | 1/93 | $18,725/$21,370 | 2.5 V-6/5M/fwd | 164/5600 | 160/4800 | 7.7 | 16.0/87.8 | 122 | .79 | 63.7 | 21/26 |
| | Mercury Cougar XR7/'91 | 4/91 | $21,139/$24,073 | 4.9 V-8/4A/rwd | 200/4000 | 275/3000 | 9.4 | 17.1/82.2 | 140 | .82 | 63.0 | 18/24 |
| | Mercury Sable LS/'92 | 4/92 | $17,368/$22,620 | 3.8 V-6/4A/fwd | 140/3800 | 215/2200 | 9.6 | 17.4/80.0 | 152 | .79 | 57.3 | 18/28 |
| | Nissan Maxima SE/'92 | 10/92 | $21,490/$23,185 | 3.0 V-6/5M/fwd | 190/5600 | 190/4000 | 7.3 | 15.7/90.6 | 116 | .80 | 60.6 | 21/26 |
| | Nissan Quest GXE/'93 | 1/93 | $21,450/$24,150 | 2.7 V-6/4A/fwd | 151/4800 | 174/4400 | 12.0 | 18.8/75.0 | 131 | .76 | 60.9 | 17/23 |
| | Nissan 240SX Convertible/'92 | 8/92 | $21,995/$23,145 | 2.4 I-4/4A/rwd | 155/5600 | 160/4400 | 9.6 | 17.3/82.5 | 147 | .80 | 62.5 | 21/26 |

**KEY:** **T = turbocharged** **S = supercharged** **D = diesel** **4wd = part-time 4-wheel drive** **awd = full-time all-wheel drive**

# ROAD TEST REVIEW

| | Model/Year | Issue | Price Base/As Tested | Powertrain Configuration | Power (hp/rpm) | Torque (lb-ft/rpm) | Acceleration 0-60 (sec) | Acceleration 1/4 Mile (sec/mph) | Braking 60-0 (ft) | Lateral Accel. (g) | Slalom (mph) | City/Hwy. EPA (mpg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oldsmobile Bravada/'91 | 9/91 | $23,795/$24,900 | 4.3 V-6/4A/4wd | 160/4000 | 230/2800 | 12.1 | 18.5/73.4 | 171 | .69 | 57.7 | 17/22 |
| | Oldsmobile Eighty Eight LS/'92 | 7/92 | $21,395/$24,501 | 3.8 V-6/4A/fwd | 170/4800 | 220/3200 | 9.0 | 16.7/83.4 | 137 | .83 | 62.6 | 18/28 |
| | Plymouth Voyager SE AWD/'92 | 5/92 | $18,737/$21,530 | 3.3 V-6/4A/awd | 150/4800 | 185/3600 | 11.5 | 18.4/75.4 | 143 | .75 | 58.4 | 16/20 |
| | Pontiac Bonneville SLE/'93 | 3/93 | $19,444/$23,658 | 3.8 V-6/4A/fwd | 170/4800 | 225/3200 | | | | | | 19/28 |
| | Pontiac Firebird Trans Am/'93 | 1/93 | $21,300/$22,265 | 5.7 V-8/6M/rwd | 275/5000 | 325/2400 | 6.3 | 14.8/97.6 | 116 | .86 | 63.0 | 17/25 |
| | Pontiac Grand Prix STE/'91 | 6/91 | $19,994/$21,669 | 3.4 V-6/4A/fwd | 200/5200 | 215/4000 | 8.7 | 16.5/86.1 | 135 | .82 | 59.0 | 17/26 |
| | Toyota CamrySE/'92 | 10/92 | $18,528/$22,394 | 3.0 V-6/5M/fwd | 181/5200 | 195/4400 | 7.7 | 16.0/88.1 | 125 | .80 | 64.9 | 19/26 |
| | Toyota Celica All-Trac/'90 | 9/90 | $21,008/$21,343 | 2.0 I-4 T/5M/awd | 200/6000 | 200/3200 | 7.5 | 15.7/87.2 | 122 | .85 | 62.6 | 19/24 |
| | Toyota Celica GT Conv./'91 | 6/91 | $19,228/$23,103 | 2.2 I-4/5M/rwd | 130/5400 | 140/4400 | 9.8 | 17.1/81.6 | 160 | .81 | 63.9 | 22/30 |
| | Toyota MR2 Turbo/'93 | 9/92 | $20,278/$24,113 | 2.0 I-4 T/5M/rwd | 200/6000 | 200/3200 | 6.1 | 14.7/93.8 | 115 | .91 | 68.0 | 20/27 |
| | Volkswagen Corrado SLC/'92 | 7/92 | $21,840/$23,035 | 2.8 V-6/5M/fwd | 178/5800 | 177/4200 | 6.8 | 15.3/92.9 | 129 | .86 | 66.2 | 18/25 |
| | Volkswagen EuroVan GL/'93 | 2/93 | $20,420/$22,740 | 2.5 I-5/4A/fwd | 109/4500 | 140/2200 | 16.9 | 20.6/65.6 | 153 | .67 | 57.5 | 17/19 |
| $25,000 - $30,000 | Acura Vigor GS/'92 | 3/92 | $23,265/$25,339 | 2.5 I-5/5M/fwd | 176/6300 | 170/3900 | 8.6 | 16.6/86.1 | 130 | .81 | 63.6 | 20/26 |
| | Alfa Romeo 164L/'91 | 3/91 | $27,500/$29,435 | 3.0 V-6/5M/fwd | 183/5800 | 185/4400 | 7.7 | 16.1/89.7 | 124 | .81 | 64.3 | 17/25 |
| | Buick LeSabre Limited/'92 | 7/92 | $20,775/$25,397 | 3.8 V-6/4A/fwd | 170/4800 | 220/3200 | 8.8 | 16.6/82.7 | 131 | .83 | 62.0 | 18/28 |
| | Buick Park Avenue Ultra/'91 | 2/91 | $27,420/$29,020 | 3.8 V-6/4A/fwd | 170/4800 | 220/3200 | 9.6 | 17.1/81.7 | 128 | .79 | 63.0 | 18/27 |
| | Chevrolet Astro LT AWD/'92 | 5/92 | $18,145/$25,595 | 4.3 V-6/4A/awd | 200/4400 | 260/3200 | 11.2 | 18.2/74.3 | 156 | .71 | 53.8 | 15/20 |
| | Chevrolet Crew Cab/'92 | 1/92 | $17,404/$25,089 | 7.4 V-8/4A/rwd | 230/3600 | 385/1600 | 11.9 | 18.5/74.6 | 172 | .73 | 57.9 | N/A |
| | Chrysler New Yorker Fifth Av/'92 | 7/92 | $21,874/$27,442 | 3.8 V-6/4A/fwd | 150/4400 | 203/3200 | 9.7 | 17.3/79.5 | 150 | .75 | 60.0 | 18/25 |
| | Ford Aerostar Bauer AWD/'92 | 5/92 | $24,381/$26,269 | 4.0 V-6/4A/awd | 155/4000 | 220/2400 | 9.9 | 17.4/77.0 | 170 | .71 | 56.4 | 15/19 |
| | Ford Chateau Club Wagon/'92 | 1/92 | $23,963/$25,609 | 5.7 V-8/4A/rwd | 200/3800 | 300/2800 | 10.8 | 17.9/76.6 | 165 | .68 | 55.2 | 11/15 |
| | Ford Taurus SHO/'92 | 10/92 | $25,000/$28,125 | 3.2 V-6/4A/fwd | 220/6200 | 215/4800 | 7.5 | 15.4/88.9 | 144 | .81 | 62.0 | 18/26 |
| | GMC Syclone/'91 | 1/91 | $25,500/$25,500 | 4.3 V-6 T/4A/awd | 280/4200 | 360/3600 | 4.9 | 13.6/98.6 | 133 | .82 | 62.9 | 14/17 |
| | GMC Typhoon/'92 | 1/92 | $28,995/$29,439 | 4.3 V-6 T/4A/awd | 280/4200 | 360/3600 | 5.5 | 14.2/95.5 | 131 | .82 | 65.7 | 15/19 |
| | Isuzu Trooper LS/'93 | 12/92 | $26,543/$28,946 | 3.2 V-6/4A/4wd | 190/5600 | 195/3800 | 10.8 | 17.9/76.9 | 130 | .74 | 56.6 | 15/18 |
| | Jeep Grand Cherokee Laredo/'93 | 12/92 | $20,884/$25,140 | 5.2 V-8/4A/4wd | 220/4800 | 285/3600 | 8.7 | 16.6/83.4 | 134 | .74 | 59.8 | 14/18 |
| | Mitsubishi Diamante LS/'92 | 3/92 | $25,639/$29,557 | 3.0 V-6/4A/fwd | 202/6000 | 199/3000 | 9.1 | 16.9/85.9 | 136 | .79 | 60.3 | 18/24 |
| | Mitsubish Montero SR/'92 | 7/92 | $23,125/$28,504 | 3.0 V-6/4A/4wd | 151/5000 | 174/4000 | 12.8 | 19.0/72.4 | 145 | .70 | 55.8 | 15/18 |
| | Oldsmobile Ninety Eight/'91 | 2/91 | $28,595/$29,175 | 3.8 V-6/4A/fwd | 170/4800 | 220/3200 | 9.7 | 17.2/81.1 | 130 | .80 | 62.7 | 18/27 |
| | Saab 900S Cabriolet/'91 | 6/91 | $28,295/$28,712 | 2.1 I-4/5M/fwd | 140/6000 | 133/2900 | 10.7 | 17.7/79.6 | 126 | .85 | 61.8 | 20/26 |
| | Subaru SVX/'92 | 9/92 | $27,250/$27,770 | 3.3 F-6/4A/awd | 230/5400 | 224/4400 | 7.3 | 15.5/90.9 | 114 | .90 | 66.5 | 20/28 |
| | Toyota Previa LE/'92 | 5/92 | $21,448/$26,423 | 2.4 I-4/4A/rwd | 138/5000 | 154/4000 | 12.4 | 18.9/74.7 | 139 | .74 | 59.3 | 17/22 |
| | Volvo 850 GLT/'92 | 12/92 | $27,250/$27,770 | 2.4 I-5/4A/fwd | 168/6200 | 162/3300 | 9.1 | 16.6/82.4 | 115 | .80 | 63.1 | 20/28 |
| $30,000 - $35,000 | Audi 90 CS Quattro Sport/'93 | 3/93 | $31,950/$32,665 | 2.8 V-6/5M/awd | 172/5500 | 184/3000 | 8.8 | 16.7/83.3 | 124 | .85 | 64.6 | 17/22 |
| | BMW 325i/'92 | 3/92 | $27,990/$30,735 | 2.5 I-6/5M/rwd | 189/5900 | 181/4700 | 7.8 | 15.8/88.4 | 124 | .84 | 64.0 | 18/26 |
| | Chevrolet Suburban 4x4/'92 | 9/92 | $21,559/$30,689 | 7.4 V-8/4A/4wd | 230/3600 | 385/1600 | 11.5 | 18.2/74.6 | 156 | .67 | 51.9 | N/A |
| | Dodge Stealth R/T Turbo/'92 | 9/92 | $31,185/$32,820 | 3.0 V-6 TT/5M/awd | 300/6000 | 307/2500 | 5.7 | 14.2/97.3 | 120 | .90 | 67.3 | 18/24 |
| | Lexus ES 300/'92 | 6/92 | $27,450/$31,322 | 3.0 V-6/4A/fwd | 185/5200 | 195/4400 | 8.6 | 16.6/85.1 | *124* | *.81* | *63.3* | *18/24* |
| | Lincoln Continental/'90 | 3/90 | $31,346/$33,503 | 3.8 V-6/4A/fwd | 140/3800 | 215/2200 | 11.4 | 18.4/74.6 | 150 | .75 | 60.5 | 18/25 |
| | Lincoln Mark VII LSC/'92 | 3/92 | $31,699/$33,657 | 4.9 V-8/4A/rwd | 225/4200 | 300/3200 | 7.8 | 16.2/86.1 | 139 | .78 | 58.3 | 17/24 |
| | Lincoln Town Car/'90 | 2/90 | $27,315/$32,821 | 5.0 V-8/4A/fwd | 160/3400 | 280/2200 | 10.2 | 17.5 /80.0 | 142 | .71 | 54.3 | 17/24 |
| | Mazda RX-7 R1/'93 | 4/92 | $31,000/$32,000 | 1.3 2-R TT/5M/rwd | 255/6500 | 217/5000 | 5.2 | 13.8/101.1 | 111 | .98 | 70.4 | 17/25 |
| | Mazda 929/'92 | 6/92 | $28,500/$33,070 | 3.0 V-6/4A/rwd | 195/5750 | 200/3500 | 8.9 | 16.7/84.3 | 119 | .84 | 62.9 | 19/24 |
| | Mitsubishi 3000GT VR-4/'92 | 4/92 | $32,800/$34,562 | 3.0 V-6 TT/5M/awd | 300/6000 | 307/2500 | 5.8 | 14.3/96.3 | 115 | .92 | 70.5 | 18/24 |
| | Saab 9000 Turbo/'92 | 9/92 | $36,945/$37,385 | 2.3 I-4 T/5M/fwd | 200/5000 | 244/2000 | 7.5 | 15.9/88.4 | 126 | .83 | 65.2 | 19/26 |
| | Volvo 960/'92 | 5/92 | $33,975/$34,508 | 2.9 I-6/4A/rwd | 201/6000 | 197/4300 | 8.9 | 16.5/86.3 | 133 | .77 | 61.4 | 18/26 |
| $35-40 K | Acura Legend LS Coupe/'92 | 5/92 | $36,250/$36,695 | 3.2 V-6/5M/fwd | 200/5500 | 210/4500 | 7.9 | 15.9/90.4 | 139 | .85 | 64.9 | 18/26 |
| | Audi 100 CS/'92 | 3/92 | $27,700/$36,840 | 2.8 V-6/4A/fwd | 172/5500 | 184/3000 | 9.6 | 17.2/82.2 | 135 | .81 | 62.8 | 17/25 |
| | Cadillac Eldorado TC/'92 | 3/92 | $32,470/$37,081 | 4.9 V-8/4A/fwd | 200/4100 | 275/3000 | 8.2 | 16.5/81.0 | 149 | .78 | 59.9 | 16/25 |
| | Cadillac Fleetwood Brougham/'93 | 1/93 | $33,990/$37,291 | 5.7 V-8/4A/rwd | 185/3800 | 300/2400 | 9.2 | 16.9/82.1 | 137 | .70 | 54.6 | 16/25 |
| | Cadillac STS/'92 | 2/92 | $37,975/$39,997 | 4.9 V-8/4A/fwd | 200/4100 | 275/3000 | 8.4 | 16.4/83.3 | 144 | .80 | 65.3 | 16/25 |
| | Chevrolet Corvette LT1/'92 | 4/92 | $33,635/$39,114 | 5.7 V-8/6M/rwd | 300/5000 | 330/4000 | 5.7 | 14.1/99.9 | 115 | .91 | 68.8 | 16/25 |
| | Infiniti J30 t/'93 | 2/93 | $36,000/$36,450 | 3.0 V-6/4A/rwd | 210/6400 | 193/4800 | 9.0 | 16.8/82.8 | 129 | .79 | 60.9 | 18/23 |
| | Lexus SC 300/'92 | 5/92 | $32,700/$36,772 | 3.0 I-6/5M/rwd | 225/6000 | 210/4800 | 7.8 | 15.8/91.1 | 132 | .87 | 64.9 | 18/23 |
| | Lincoln Mark VIII/'93 | 1/93 | $36,970/$39,000 | 4.6 V-8/4A/rwd | 280/5500 | 285/4500 | 7.4 | 15.6/94.6 | 137 | .79 | 60.5 | 18/25 |
| | Nissan 300ZX Turbo/'92 | 4/92 | $35,890/$36,270 | 3.0 V-6 TT/5M/rwd | 300/6400 | 283/3600 | 5.7 | 14.2/100.6 | 125 | .95 | 69.3 | 18/24 |
| | Range Rover Hunter/'91 | 9/91 | $36,500/$38,575 | 3.9 V-8/4A/4wd | 178/4750 | 220/3250 | 12.1 | 18.3/75.4 | 150 | .65 | 51.8 | 13/16 |
| | Toyota Supra Turbo/'93 | 3/39 | $37,000/$37,000 | 2.9 I-6 T/6M/rwd | 320/5600 | 315/4000 | 5.4 | 13.5/106.6 | 109 | .98 | 68.5 | 18/23 |
| $40-50 K | Audi 200 Quattro Wagon/'91 | 2/91 | $42,400/$42,875 | 2.2 I-5 T/5M/awd | 215/5700 | 228/1950 | 7.7 | 15.7/88.1 | 131 | .85 | 64.4 | 18/24 |
| | BMW525i Touring/'93 | 2/93 | $38,600/$40,835 | 2.3 I-6/4A/rwd | 189/5200 | 184/4200 | 11.6 | 18.6/80.2 | 130 | .81 | 60.1 | 18/25 |
| | Chevrolet Corvette LT1/'93 | 3/93 | $34,595/$40,074 | 5.7 V-8/6M/rwd | 300/5500 | 340/3600 | 5.6 | 14.0/101.7 | 116 | .93 | 65.2 | 17/25 |
| | Infiniti Q45/'91 | 3/91 | $43,000/$43,350 | 4.5 V-8/4A/rwd | 278/6000 | 292/4000 | 7.3 | 15.6/90.4 | 128 | .81 | 63.2 | 16/22 |
| | Lexus LS 400/'90 | 3/90 | $35,000/$41,325 | 4.0 V-8/4A/rwd | 250/5600 | 260/4400 | 8.1 | 16.1/89.3 | 126 | .79 | 59.4 | 18/23 |
| | Lexus SC 400/'92 | 3/92 | $37,500/$42,300 | 4.0 V-8/4A/rwd | 250/5600 | 260/4400 | 7.2 | 15.4/92.9 | 130 | .86 | 63.9 | 18/23 |
| | Range Rover County SE/ '91 | 7/91 | $47,300/$48,053 | 3.9 V-8/4A/4wd | 178/4750 | 220/3250 | 11.0 | 18.2/76.1 | 136 | .72 | 56.9 | 13/16 |
| | Toyota Land Cruiser/'93 | 3/93 | $31,178/$40,128 | 4.5 I-6/4A/4wd | 212/4600 | 275/3200 | 10.8 | 18.0/76.7 | 128 | .73 | 59.9 | 12/15 |
| $50-60 K | Audi V8/'91 | 5/91 | $51,500/$53,175 | 3.6 V-8/5M/awd | 240/5800 | 245/4000 | 6.8 | 15.1/89.8 | 135 | .80 | 59.1 | 14/20 |
| | BMW M5/'91 | 5/91 | $56,600/$59,055 | 3.6 I-6/5M/rwd | 310/6900 | 265/4750 | 6.5 | 14.9/97.5 | 120 | .81 | 66.5 | 11/20 |
| | Consulier GTP LX/'91 | 7/91 | $58,900/$58,900 | 2.2 I-4/5M/rwd | 200/5200 | 200/2700 | 6.3 | 14.9/91.5 | 137 | .90 | 64.7 | 21/27 |
| | Dodge Viper RT/10/'92 | 8/92 | $50,000/$53,300 | 8.0 V-10/6M/rwd | 400/4600 | 450/3600 | 4.7 | 13.1/108.8 | 145 | .97 | 68.4 | 13/22 |
| | Mercedes-Benz 400E/'92 | 12/91 | $55,300/$58,500 | 4.2 V-8/4A/rwd | 268/5700 | 295/3900 | 7.6 | 15.8/94.2 | 119 | .77 | 58.8 | 15/20 |
| $60,000 AND UP | Acura NSX/'92 | 4/92 | $63,000/$63,680 | 3.0 V-6/5M/rwd | 270/7100 | 210/5300 | 5.6 | 13.9/102.1 | 111 | .93 | 69.1 | 19/24 |
| | BMW 750iL/'91 | 5/91 | $74,000/$76,105 | 4.5 V-12/4A/rwd | 296/5200 | 332/4100 | 8.1 | 16.0/91.8 | 122 | .73 | 57.7 | 12/18 |
| | BMW 850i/'91 | 7/91 | $77,600/$90,140 | 5.0 V-12/6M/rwd | 296/5200 | 332/4100 | 7.4 | 15.6/92.5 | 125 | .84 | 63.0 | 12/19 |
| | Callaway T. Turbo Corvette/'91 | 8/91 | $66,005/$84,344 | 5.7 V-8/6M/rwd | 403/4500 | 575/3000 | 4.8 | 13.0/112.7 | 108 | .94 | 71.3 | 9/14 |
| | Chevrolet Corvette ZR-1/'93 | 3/93 | $34,595/$67,878 | 5.7 V-8/6M/rwd | 405/5800 | 385/5200 | 4.9 | 13.1/109.6 | 112 | .95 | 66.3 | 17/25 |
| | Ferrari 512 TR/'92 | 11/92 | $189,500/$195,600 | 5.0 F-12/5M/rwd | 421/6750 | 360/5500 | 4.7 | 12.9/110.0 | 129 | 1.01 | 65.7 | 11/16 |
| | Jaguar XJR-15/'91 | 5/92 | $1 million | 6.0 V-12/6M/rwd | 450/6250 | 430/4500 | 4.5 | 12.6/117.2 | N/A | .95 | N/A | N/A |
| | Jaguar XJ-S/'92 | 4/92 | $60,500/$62,540 | 5.3 V-12/3A/rwd | 263/5350 | 288/3200 | 8.3 | 16.3/90.7 | 127 | .79 | 61.1 | 13/18 |
| | Lamborghini Diablo/'91 | 5/92 | $239,000 | 5.7 V-12/5M/rwd | 485/7000 | 428/5200 | 4.4 | 13.2/109.6 | N/A | .91 | N/A | N/A |
| | Lotus Turbo Esprit X-180R/'91 | 1/92 | $126,500/$127,745 | 2.2 I-4 T/5M/rwd | 264/6500 | 261/3900 | 4.6 | 13.2/106.2 | 125 | .93 | 67.6 | 17/28 |
| | Mercedes-Benz 500SEL/'92 | 2/92 | $93,500/$98,050 | 5.0 V-8/4A/rwd | 322/5700 | 354/3900 | 7.4 | 15.7/91.4 | 131 | .79 | 62.2 | 13/16 |
| | Mercedes-Benz 600SEC/'93 | 3/93 | $132,000/$132,400 | 6.0 V-12/4A/fwd | 389/5200 | 420/3800 | 6.5 | 14.8/97.6 | 123 | .77 | 61.2 | 12/16 |
| | Porsche Carrera 2 Cabr./'91 | 6/91 | $72,250/$75,960 | 3.6 F-6/4A/rwd | 247/6100 | 228/4800 | 6.0 | 14.4/101.1 | 119 | .87 | 68.5 | 16/22 |
| | Porsche Carrera 4/'89 | 10/89 | $69,500/$73,972 | 3.6 F-6/5M/awd | 247/6100 | 228/4800 | 5.5 | 13.9/100.4 | 127 | .84 | 65.8 | 15/22 |
| | Shelby Cobra 427 S/C/'92 | 8/92 | $500,000 | 7.0 V-8/4M/rwd | 425/6000 | 480/3700 | 4.8 | 13.2/105.5 | 131 | 1.02 | 69.3 | N/A |

**KEY:** T = turbocharged S = supercharged D = diesel 4wd = part-time 4-wheel drive awd = full-time all-wheel drive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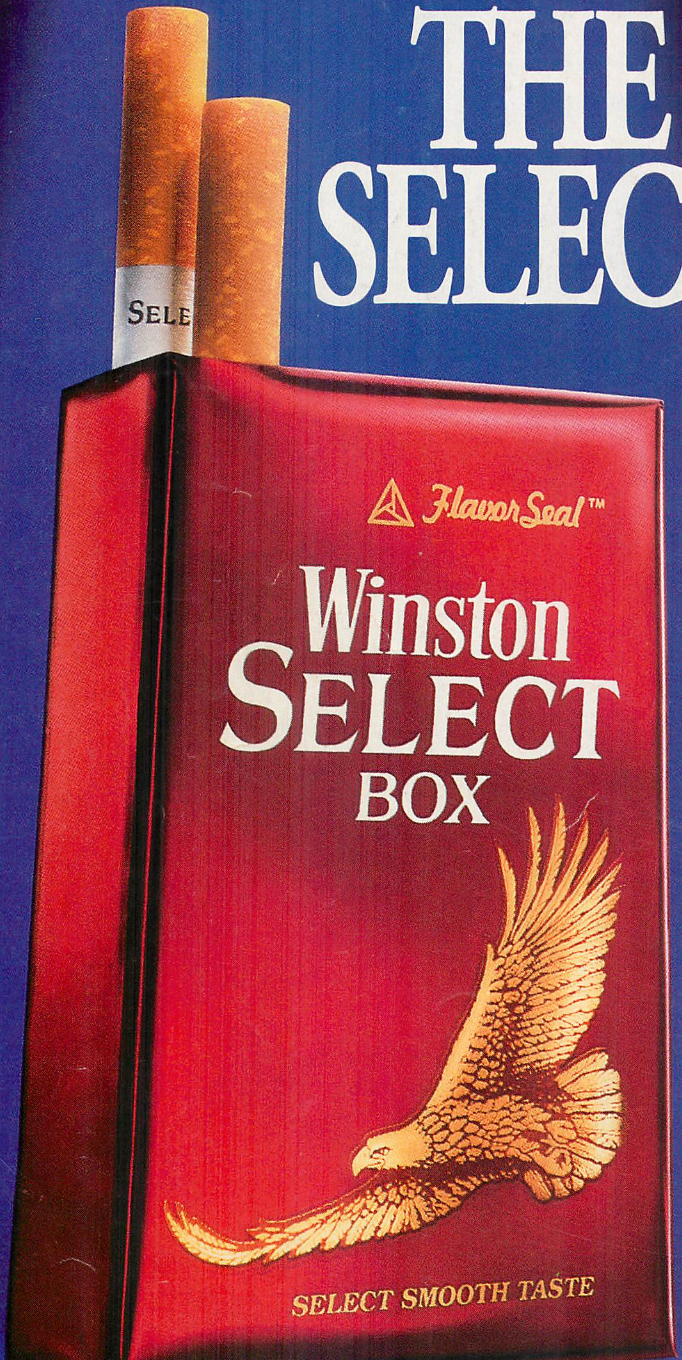
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